APPENDIX J

TRAFFIC STUDY

Traffic Study

for the:

Big Box Retail, Car Wash, and Fuel Station Project

In the City of Hesperia

April 2025

Kimley»Horn

TRAFFIC STUDY
FOR THE PROPOSED
BIG BOX RETAIL, CAR WASH, AND FUEL STATION PROJECT
IN THE CITY OF HESPERIA

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TRAFFIC STUDY
FOR THE PROPOSED
BIG BOX RETAIL, CAR WASH, AND FUEL STATION PROJECT
IN THE CITY OF HESPERIA

INTRODUCTION

Purpose and Study Objectives

This traffic study has been prepared to address the traffic-related effects of the proposed Big Box Retail, Car Wash, and Fuel Station project in the City of Hesperia. This traffic study has been conducted in accordance with the traffic study requirements of the City of Hesperia outlined in the *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessment* (July 2020).

This report includes a description of existing traffic conditions in the surrounding area, estimated project trip generation and distribution, future traffic growth, and an assessment of project-related effects on the transportation system. Where necessary, circulation system improvements have been identified to address project-related effects at the study locations.

Project Overview

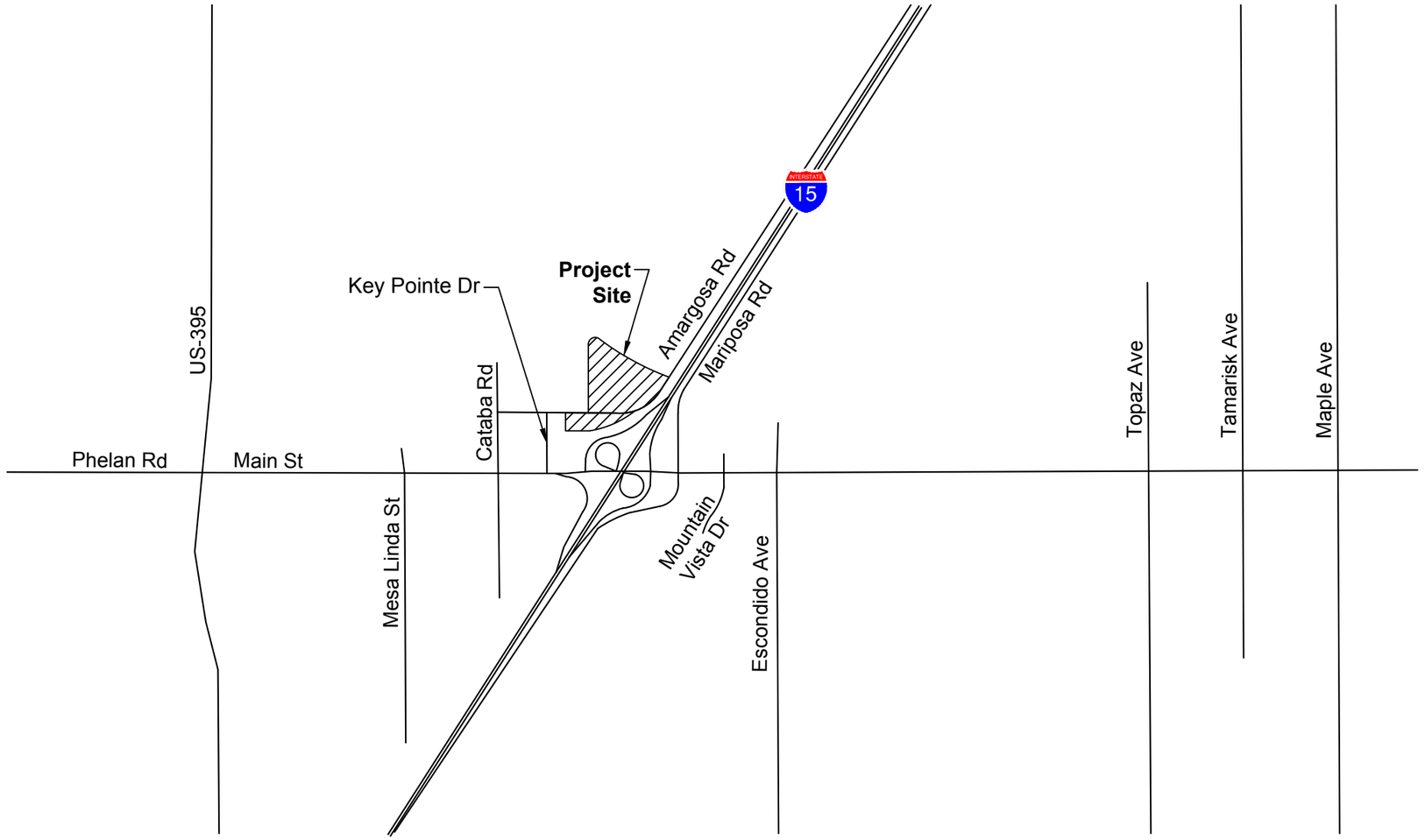
The project site is located just east of the intersection of Key Pointe Drive at Amargosa Road in the City of Hesperia. The project site is generally bounded by Amargosa Road, Key Pointe Drive, and vacant land. The project site is shown in its regional setting on **Figure 1.**

The site is currently vacant land. The applicant proposes to develop an approximately 167,664 square-foot (SF) big box retail store north of Amargosa Road, and a fuel station with 28 fueling positions and a single-tunnel automated car wash south of Amargosa Road. A copy of the project site plan is provided on **Figure 2**. Truck turning templates for both the fuel station and big box retail store are provided in ***Appendix A***.

Direct vehicular access provisions for the big box retail store portion of the project would consist of the following two driveways:

- One signalized full-access driveway located approximately 650 feet east of Key Pointe Drive along Amargosa Road
- One unsignalized full-access in, right turn-only out driveway located approximately 1,000 feet east of Key Pointe Drive along Amargosa Road

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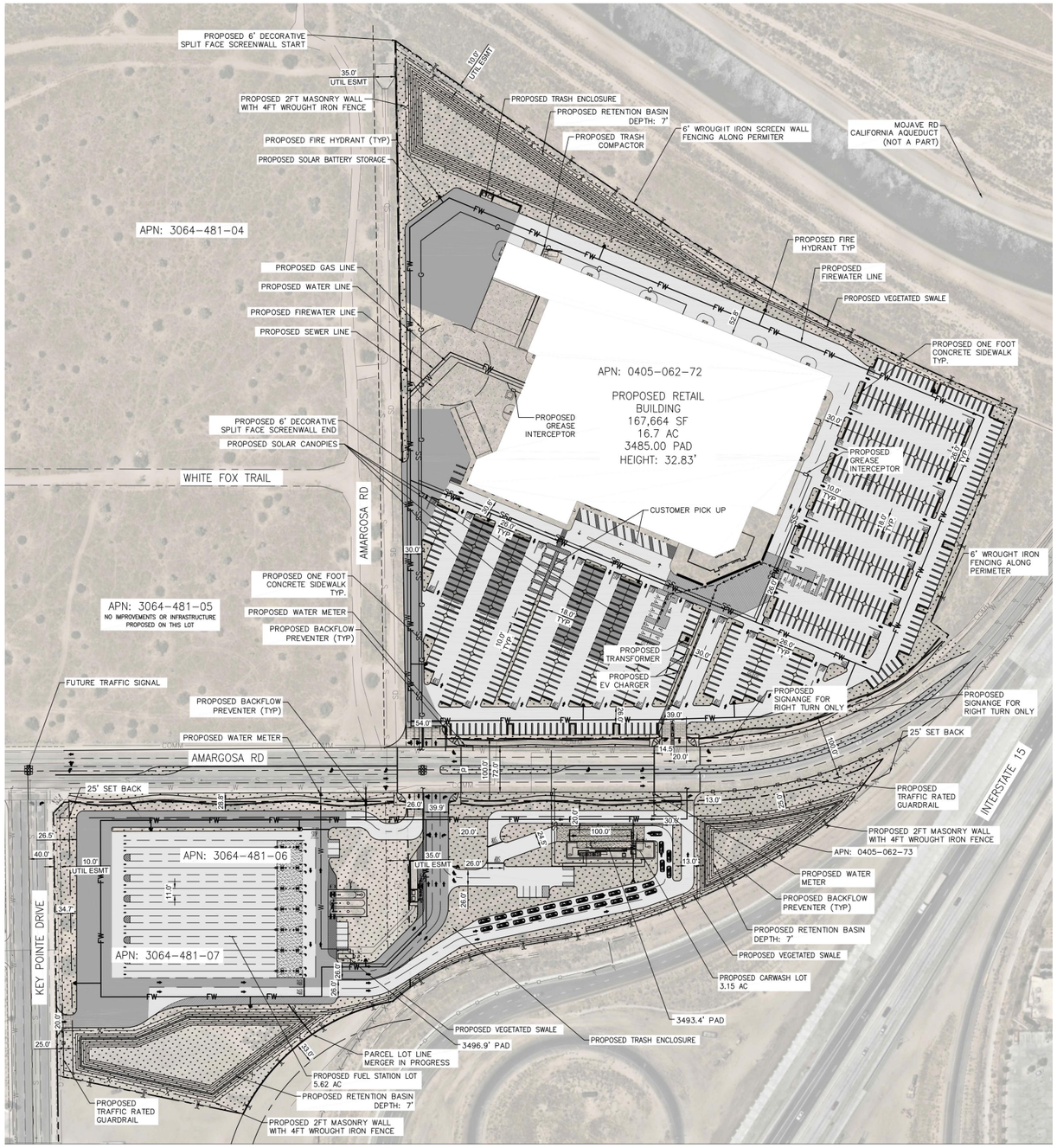


LEGEND:

= Project Site

FIGURE 1
VICINITY MAP

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FIGURE 2
SITE PLAN

Direct vehicular access provisions for the fuel station and car wash portion of the project would consist of the following three driveways:

- One signalized full-access driveway located approximately 650 feet east of Key Pointe Drive along Amargosa Road, aligned with the signalized full-access driveway for the big box retail store
- One unsignalized right-turn exit-only driveway located approximately 1,000 feet east of Key Pointe Drive along Amargosa Road, aligned with the unsignalized full-access in, right turn-only out driveway for the big box retail store
- One unsignalized entrance-only driveway located approximately 400 feet south of Amargosa Road along Key Pointe Drive

ANALYSIS SCENARIOS AND METHODOLOGY

The analysis scenarios and methodology were established in consultation with City of Hesperia staff through the Scoping Agreement process. A copy of the approved Scoping Agreement is provided in ***Appendix B***.

Analysis Scenarios

In accordance with the traffic study requirements of the City of Hesperia, the project will be evaluated in the morning and evening peak hours for the following conditions:

- Existing Conditions
- Opening Year 2026 Cumulative (Existing Plus Ambient Growth Plus Cumulative Projects)
- Opening Year 2026 Cumulative Plus Project
- Horizon Year 2045
- Horizon Year 2045 Plus Project

Intersection Analysis – HCM Methodology

Peak hour intersection operations at the study intersections and driveways were evaluated using the methods prescribed in the Highway Capacity Manual 7th Edition (HCM), consistent with the traffic study requirements of the City of Hesperia. The intersection analysis was conducted using the Vistro software program and using the input parameters specified in the San Bernardino County Congestion Management Plan (CMP).

For signalized intersections, the HCM methodology estimates the average delay (in average seconds per vehicle) for each of the movements through the intersection, considering a number of factors, including the number of lanes, volume of traffic, and the signal timing phasing.

For unsignalized intersections, the HCM methodology analysis determines the average total delay for each vehicle making any movement from the stop-controlled minor street, as well as left turns from the major street. Delay values are calculated based on the relationship between traffic on the major street and the availability of acceptable gaps in the traffic stream through which conflicting traffic movements can be made.

The HCM delay forecast translates to a Level of Service (LOS) designation, ranging from LOS A to LOS F. A summary of each LOS and the corresponding delay is provided in the following charts:

LEVEL OF SERVICE DEFINITIONS	
Level of Service	**Description**
A	No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized, and a substantial number are approaching full use. Many drivers begin to feel restricted within platoons of vehicles.
C	This level still represents stable operating conditions. Occasionally drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted but not objectionably so.
D	This level encompasses a zone of increasing restriction, approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is seldom attained no matter how great the demand.
F	This level describes forced flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially, and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, both speed and volume can drop to zero.

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED AND UNSIGNALIZED INTERSECTIONS		
Level of Service	**Signalized Intersection (Average delay per vehicle, in seconds)** [1]	**Unsignalized Intersections (Average delay per vehicle, in seconds)** [2]
A	≤ 10	0 – 10
B	> 10 – 20	> 10 – 15
C	> 20 – 35	> 15 – 25
D	> 35 – 55	> 25 – 35
E	> 55 – 80	> 35 – 50
F	> 80	> 50

[1] Source: Highway Capacity Manual (HCM 7th Edition), Exhibit 19-8.

[2] Source: Highway Capacity Manual (HCM 7th Edition), Exhibit 20-2.

Level of Service Standards and Measure of Significance

The City of Hesperia minimum LOS standards require that intersections operate at LOS D or better during the morning and evening peak hours.

If the project traffic causes operations at a study intersection to go from an acceptable (LOS D or better) to an unacceptable LOS (LOS E or F), the project would have a project-related effect at the intersection. Where necessary, recommended improvements will be identified to achieve acceptable intersection operation at deficient study intersections.

It should be noted that the Caltrans *Guide for the Preparation of Traffic Impact Studies* (December 2002) states that "Caltrans endeavors to maintain a target LOS at the transition between LOS 'C' and LOS 'D' on State highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained."

STUDY AREA

This traffic study includes documentation of existing conditions, future conditions, and identification of project-related effects at the following study locations:

Intersections:

1. Key Pointe Drive at Amargosa Road
2. US-395 at Phelan Road/Main Street
3. Mesa Linda Street at Main Street
4. Cataba Road at Main Street
5. Key Pointe Drive at Main Street
6. I-15 SB Ramps at Main Street
7. I-15 NB Ramps at Main Street
8. Mariposa Road at Main Street
9. Mountain Vista Avenue at Main Street
10. Escondido Avenue at Main Street
11. Topaz Avenue at Main Street

D1. Key Pointe Drive at South Fuel Entrance Driveway
D2. Amargosa Road at West Retail Driveway/West Fuel Driveway
D3. Amargosa Road at East Retail Driveway/East Fuel Exit Driveway

The study locations were established in consultation with City of Hesperia staff through the Scoping Agreement process. It should be noted that the site access driveways have been revised since the approval of the Scoping Agreement, including an adjustment from four driveways to three driveways, per direction from City staff. This traffic analysis is based on the revised driveway configuration.

AREA CONDITIONS

Existing Street System

Regional access to the site is provided primarily by the Interstate 15 (I-15) Freeway. Direct access to the project site is provided via Key Pointe Drive and Amargosa Road.

Existing lane configurations and intersection controls at the study intersections are shown on **Figure 3**. A copy of the City of Hesperia General Plan Circulation Map is provided on **Figure 4**. The following provides a description of the roadways surrounding the project site.

US-395 – US-395 is a north-south undivided roadway with one lane traveling in each direction within the project vicinity. On-street parking is prohibited along the roadway, and the posted speed limit is 55 miles per hour (mph). US-395 is designated as a State Highway within the project vicinity in the City of Hesperia General Plan.

Mesa Linda Street – Mesa Linda Street is a north-south undivided roadway with one lane traveling in each direction within the project vicinity. On-street parking is prohibited along the roadway. Mesa Linda Street is designated as a Major Arterial in the City of Hesperia General Plan.

Cataba Road – Cataba Road is a north-south divided roadway with a center unraised median, one lane traveling in the southbound direction, and two lanes traveling in the northbound direction within the project vicinity. On-street parking is prohibited along the roadway.

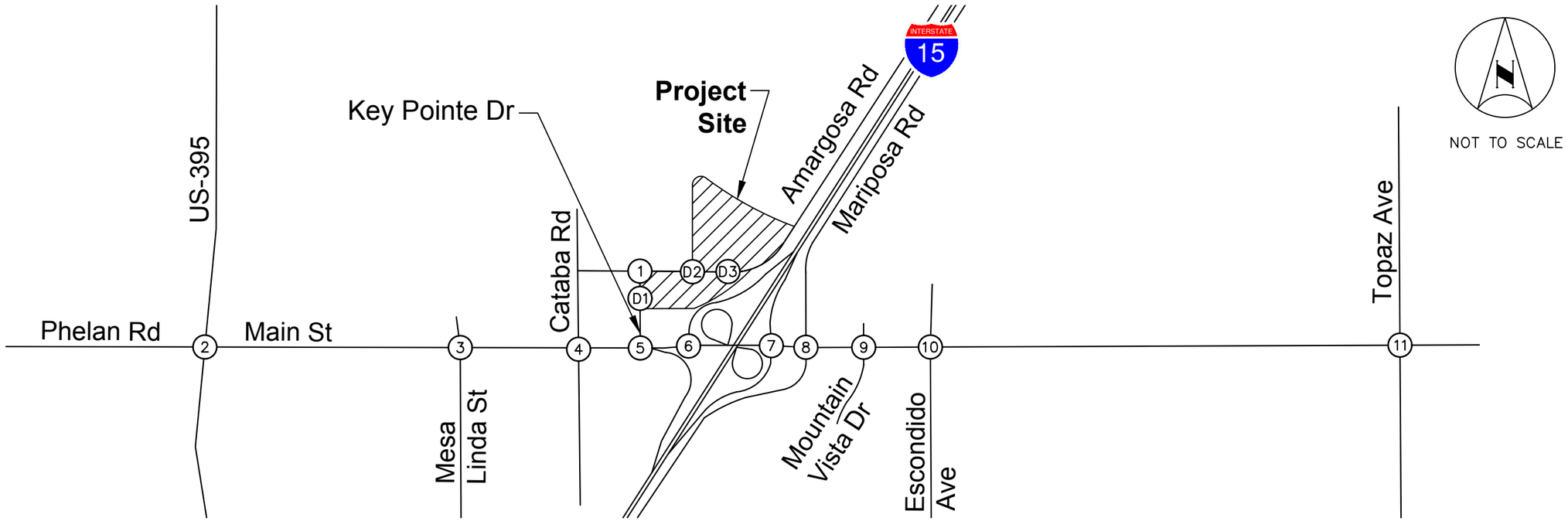
Key Pointe Drive – Key Pointe Drive is a north-south undivided roadway with two lanes in each direction within the project vicinity. On-street parking is prohibited along the roadway.

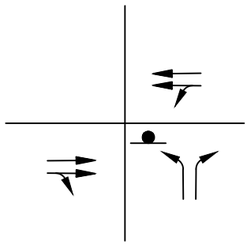
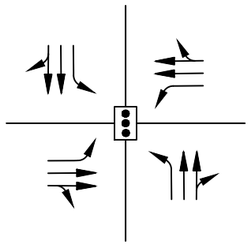
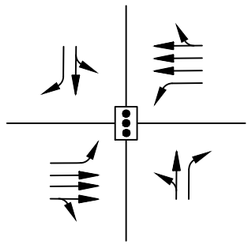
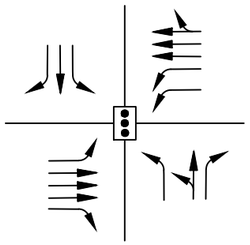
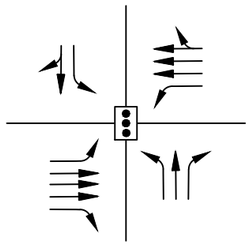
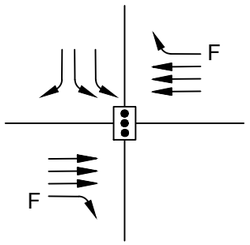
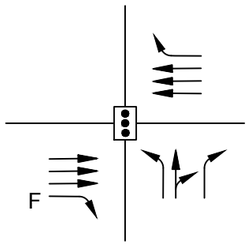
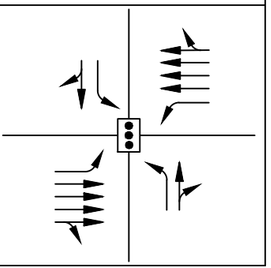
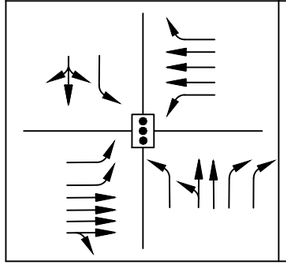
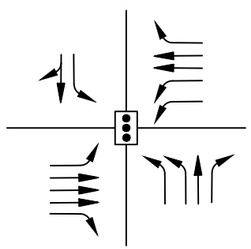
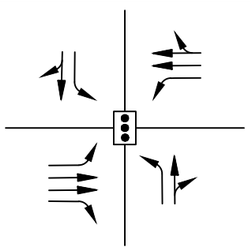
Mariposa Road – Mariposa Road is a north-south undivided roadway with one lane traveling in each direction within the project vicinity. On-street parking is prohibited along the roadway, and the posted speed limit is 55 mph.

Mountain Vista Avenue – Mountain Vista Avenue is a north-south undivided roadway with one lane traveling in each direction within the project vicinity. On-street parking is prohibited along the roadway.

Escondido Avenue – Escondido Avenue is a north-south divided roadway with a center two-way left-turn lane (TWLTL) and two lanes in each direction within the project vicinity. On-street parking is prohibited along the roadway, and the posted speed limit is 50 mph. Escondido Avenue is designated as an Arterial within the project vicinity in the City of Hesperia General Plan.

Topaz Avenue – Topaz Avenue is a north-south undivided roadway with one lane traveling in each direction within the project vicinity. On-street parking is prohibited along the roadway.

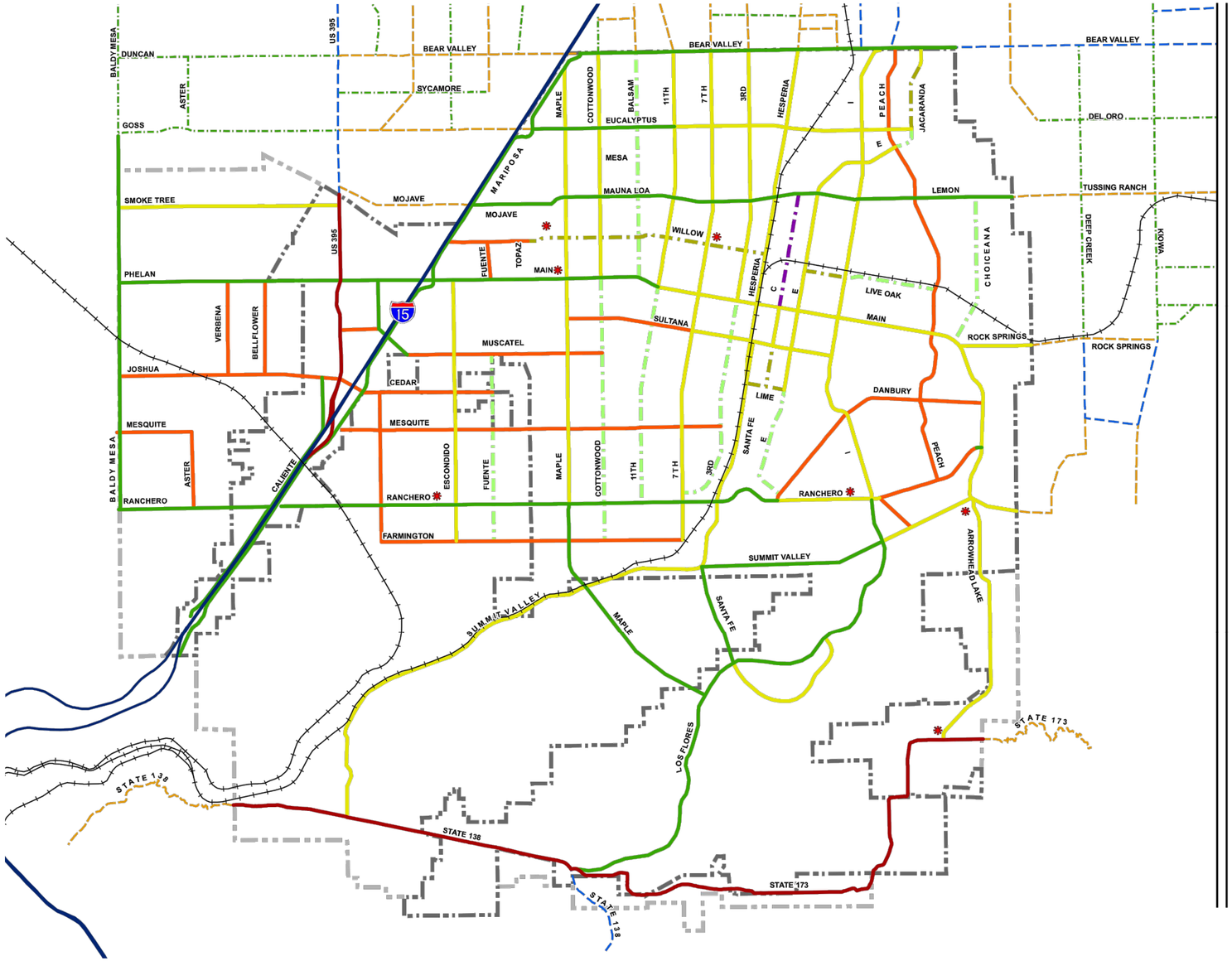


1. Key Pointe Dr at Amargosa Rd	2. US-395 at Phelan Rd/Main St	3. Mesa Linda St at Main St	4. Cataba Rd at Main St	5. Key Pointe Dr at Main St	6. I-15 SB Ramps at Main St	7. I-15 NB Ramps at Main St	8. Mariposa Rd at Main St
							
9. Mountain Vista Ave at Main St	**10. Escondido Ave at Main St**	**11. Topaz Ave at Main St**	**D1. Key Pointe Dr at South Fuel Entrance Driveway**	**D2. Amargosa Rd at West Retail Driveway/West Fuel Driveway**	**D3. Amargosa Rd at East Retail Driveway/East Fuel Exit Driveway**		
			FUTURE INTERSECTION	FUTURE INTERSECTION	FUTURE INTERSECTION		

LEGEND:
- (X) = Study Intersection
- = Turn or Through Lane
- = Signal
- = Stop Sign
- F = Free Right Turn

FIGURE 3
EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL

NOT TO SCALE



Legend

Roadway Clasifications

Arterials

- State Highway
- Major Arterial
- Arterial
- Secondary Arterial
- Suburban Collector
- Rural Collector
- Industrial Collector

Streets Outside City's Sphere

- Major Arterial
- Arterial
- Colllector

Misc.

- Bike_Lanes
- Interstate (I-15)
- Railroad

- City Boundary
- Sphere of Influence

* Indicates streets with Special Sections than standard Major Arterial and arterial designations.

FIGURE 4
CITY OF HESPERIA CIRCULATION MAP

Amargosa Road – Amargosa Road is an east-west undivided roadway with two lanes in each direction west of the proposed intersection of Amargosa Road at West Retail Driveway/West Fuel Driveway (D2) and with one lane in each direction east of this proposed intersection within the project vicinity. Amargosa Road is proposed to have two lanes in each direction along the project frontage and maintain one lane in each direction east of the project site. On-street parking is prohibited along the roadway.

Phelan Road – Phelan Road is an east-west divided roadway with a center unraised median and two lanes in each direction within the project vicinity. On-street parking is prohibited along the roadway, and the posted speed limit is 55 mph. Phelan Road is designated as a Major Arterial in the City of Hesperia General Plan.

Main Street – Main Street is an east-west divided roadway with a center raised median and three lanes in each direction within the project vicinity. On-street parking is prohibited along the roadway, and the posted speed limit is 50 mph. Main Street is designated as a Major Arterial in the City of Hesperia General Plan.

Transit Service

Transit service within the project area is provided by the Victor Valley Transit Authority (VVTA), which serves the City of Hesperia and other surrounding communities. The closest bus stop in the project vicinity is located approximately 500 feet south of the intersection of Key Pointe Drive at Amargosa Road. A description of the bus routes serving the project area is provided below.

Route 20 – Route 20 operates within the community of Hesperia, traveling along Amargosa Road within the project vicinity. Route 20 operates on weekdays from approximately 6:30 AM to 9:20 PM with approximately 2-hour headways (the time between bus arrivals). On the weekends, Route 20 operates from approximately 8:25 AM to 5:15 PM with approximately 2-hour headways.

Route 21 – Route 21 operates within the community of Hesperia, traveling along Phelan Road within the project vicinity. Route 21 operates on weekdays from approximately 6:45 AM to 8:05 PM with approximately 2-hour headways. On the weekends, Route 21 operates from approximately 9:45 AM to 4:10 PM with approximately 2-hour headways.

Route 64 – Route 64 operates within the community of Hesperia, traveling along Main Street within the project vicinity. Route 64 operates on weekdays from approximately 6:15 AM to 8:55 PM with approximately 1-hour headways. On the weekends, Route 64 operates from approximately 8:15 AM to 6:00 PM with approximately 1-hour headways.

Route 68 – Route 68 operates within the community of Hesperia, traveling along Main Street within the project vicinity. Route 68 operates on weekdays from approximately 6:15 AM to 9:10 PM with approximately 1-hour headways. On the weekends, Route 68 operates from approximately 8:25 AM to 5:45 PM with approximately 1-hour headways.

Existing Traffic Volumes

Existing daily, morning peak hour, and evening peak hour counts were conducted at the study locations in May 2024 and November 2024, while schools were in session. Existing morning and evening peak hour volumes are presented on **Figure 5**. Traffic count worksheets are provided in ***Appendix C***.

Peak Hour Operating Conditions

An intersection LOS analysis was conducted for the morning and evening peak hours using the analysis procedures and assumptions described previously in this report. The results of the intersection analysis for Existing Conditions are shown on **Table 1**. Copies of intersection analysis worksheets are provided in ***Appendix D***.

Review of this table indicates that all study intersections currently operate at an acceptable LOS.

FUTURE CONDITIONS

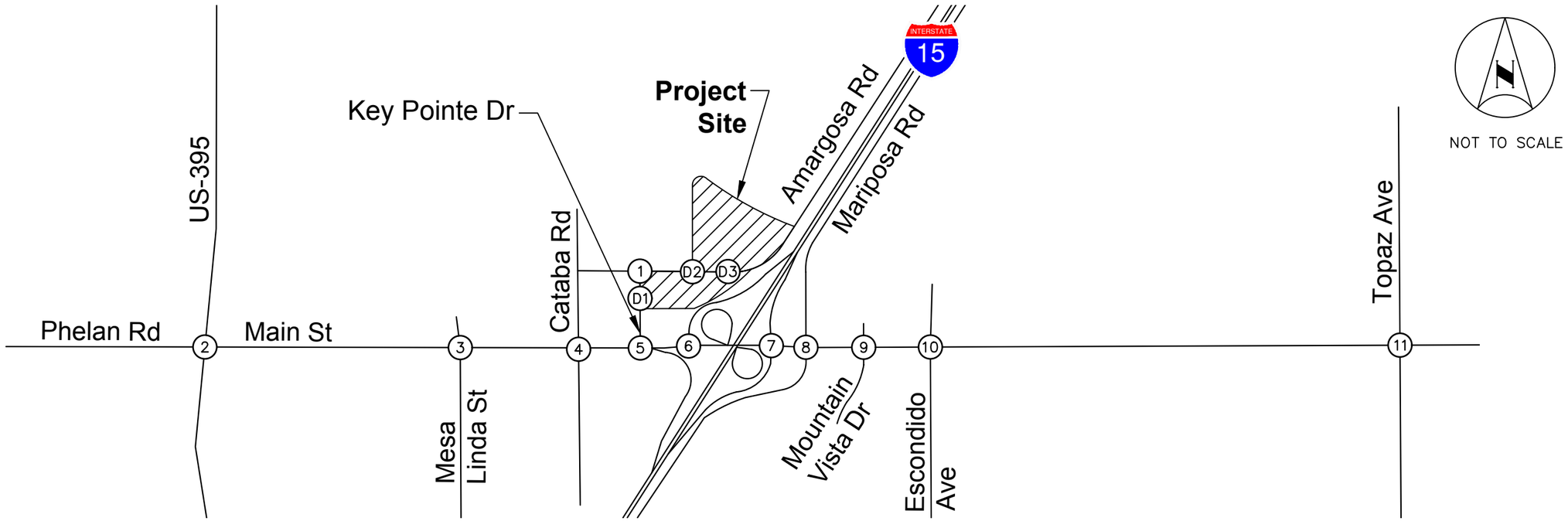
Opening Year 2026 Cumulative

The project Opening Year (the year the project would be constructed and occupied) is anticipated to be Year 2026. An ambient growth rate of 2% per year to Opening Year 2026 was applied to existing traffic volumes. Cumulative Project traffic was also added to Opening Year 2026 volumes and is detailed below.

Cumulative Projects

In addition to ambient growth, Cumulative Project traffic volumes were added to existing traffic volumes. Information about Cumulative Projects in the area was provided by the City of Hesperia. Cumulative Projects consist of any project that has been approved but is not yet constructed/occupied, and projects that are in various stages of the application and approval process but have not yet been approved. A summary of Cumulative Projects in the project vicinity and the trip generation associated with each is provided on **Table 2**. The location of Cumulative Projects is shown on **Figure 6**.

Trip generation information for the Cumulative Projects was derived either from approved traffic studies, where available; or developed by Kimley-Horn if approved traffic studies were not available. Likewise, trip distribution and assignment for the Cumulative Projects were either derived from approved traffic studies, where available; or were developed by Kimley-Horn if approved traffic studies were not available. Project information and trip distribution assumptions for Cumulative Projects are provided in ***Appendix E***. Traffic volumes associated with Cumulative Projects were compiled for each of the study locations and are shown on **Figure 7**.



1. Key Pointe Dr at Amargosa Rd	2. US-395 at Phelan Rd/Main St	3. Mesa Linda St at Main St	4. Cataba Rd at Main St	5. Key Pointe Dr at Main St	6. I-15 SB Ramps at Main St	7. I-15 NB Ramps at Main St	8. Mariposa Rd at Main St
←49/142 ←108/279 77/116 → 5/13 ↘ 5/6 ↑ 142/244 ↑	21/35 ↖ 702/536 ← 230/237 ↙ 183/453 ↑ 296/557 ← 10/6 ↖ 28/36 → 702/500 → 100/44 ↘ 48/99 ↑ 516/885 → 8/54 ↗	11/1 ↖ 0/1 ← 36/23 ↙ 17/44 ↑ 587/998 ← 57/43 ↖ 5/6 → 915/880 → 9/14 ↘ 2/15 ↑ 1/2 ↑ 26/80 ↗	46/114 ↖ 9/39 ← 34/40 ↙ 18/28 ↑ 546/786 ← 138/173 ↖ 63/83 → 740/714 → 87/140 ↘ 50/151 ↑ 13/47 → 109/184 ↗	10/19 ↖ 24/80 ← 113/218 ↙ 120/180 ↑ 634/1013 ← 128/269 ↖ 20/38 → 944/933 → 9/20 ↘ 7/30 ↑ 10/48 → 56/217 ↗	172/291 ↖ 235/470 ← 503/342 ↑ 719/1131 ← 1032/1180 → 85/138 ↘	472/391 ↑ 1117/1276 ← 1005/1372 → 274/251 ↘ 57/183 ↑ 2/4 ↑ 383/731 ↗	162/202 ↖ 114/96 ← 67/142 ↙ 54/107 ↑ 1301/1309 ← 102/80 ↖ 122/283 → 1115/1637 → 114/187 ↘ 70/100 ↑ 46/95 → 49/62 ↗

9. Mountain Vista Ave at Main St	10. Escondido Ave at Main St	11. Topaz Ave at Main St	D1. Key Pointe Dr at South Fuel Entrance Driveway	D2. Amargosa Rd at West Retail Driveway/West Fuel Driveway	D3. Amargosa Rd at East Retail Driveway/East Fuel Exit Driveway
31/18 ↖ 3/7 ← 102/68 ↙ 94/48 ↑ 1459/1511 ← 59/88 ↖ 26/35 → 1196/1808 → 8/29 ↘ 13/63 ↑ 0/4 ↑ 18/43 ↗	12/224 ↖ 2/37 ← 3/49 ↙ 6/7 ↑ 829/984 ← 318/408 ↖ 10/45 → 863/1215 → 430/597 ↘ 626/473 ↑ 14/221 → 325/302 ↗	88/46 ↖ 76/34 ← 110/53 ↙ 103/57 ↑ 925/1191 ← 28/55 ↖ 62/51 → 1073/1257 → 95/202 ↘ 175/162 ↑ 70/33 ↑ 52/59 ↗	FUTURE INTERSECTION	FUTURE INTERSECTION	FUTURE INTERSECTION

LEGEND:
- = Project Site
- (X) = Study Intersection
- XX/YY = AM/PM Volumes

FIGURE 5
EXISTING TRAFFIC VOLUMES

TABLE 1
SUMMARY OF INTERSECTION OPERATION
EXISTING CONDITIONS

Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Key Pointe Drive at Amargosa Road	U	11.9	B	20.1	C
2	US-395 at Phelan Road/Main Street	S	28.8	C	49.9	D
3	Mesa Linda Street at Main Street	S	10.2	B	10.7	B
4	Cataba Road at Main Street	S	21.1	C	27.5	C
5	Key Pointe Drive at Main Street	S	13.0	B	22.2	C
6	I-15 SB Ramps at Main Street	S	9.6	A	12.8	B
7	I-15 NB Ramps at Main Street	S	9.4	A	14.8	B
8	Mariposa Road at Main Street	S	19.6	B	25.1	C
9	Mountain Vista Avenue at Main Street	S	13.1	B	15.8	B
10	Escondido Avenue at Main Street	S	27.1	C	39.1	D
11	Topaz Avenue at Main Street	S	23.5	C	17.3	B
D1	Key Pointe Drive at South Fuel Entrance Driveway	Future Intersection				
D2	Amargosa Road at West Retail Driveway/West Fuel Driveway	Future Intersection				
D3	Amargosa Road at East Retail Driveway/East Fuel Exit Driveway	Future Intersection				

Notes:
- **Bold** values indicate intersections operating at an unacceptable Level of Service

- Delay values for signalized intersections represent the average control delay for the entire intersection, measured in seconds per vehicle.

- Delay values for unsignalized intersections represent the average vehicle delay on the worst (highest delay) intersection approach.

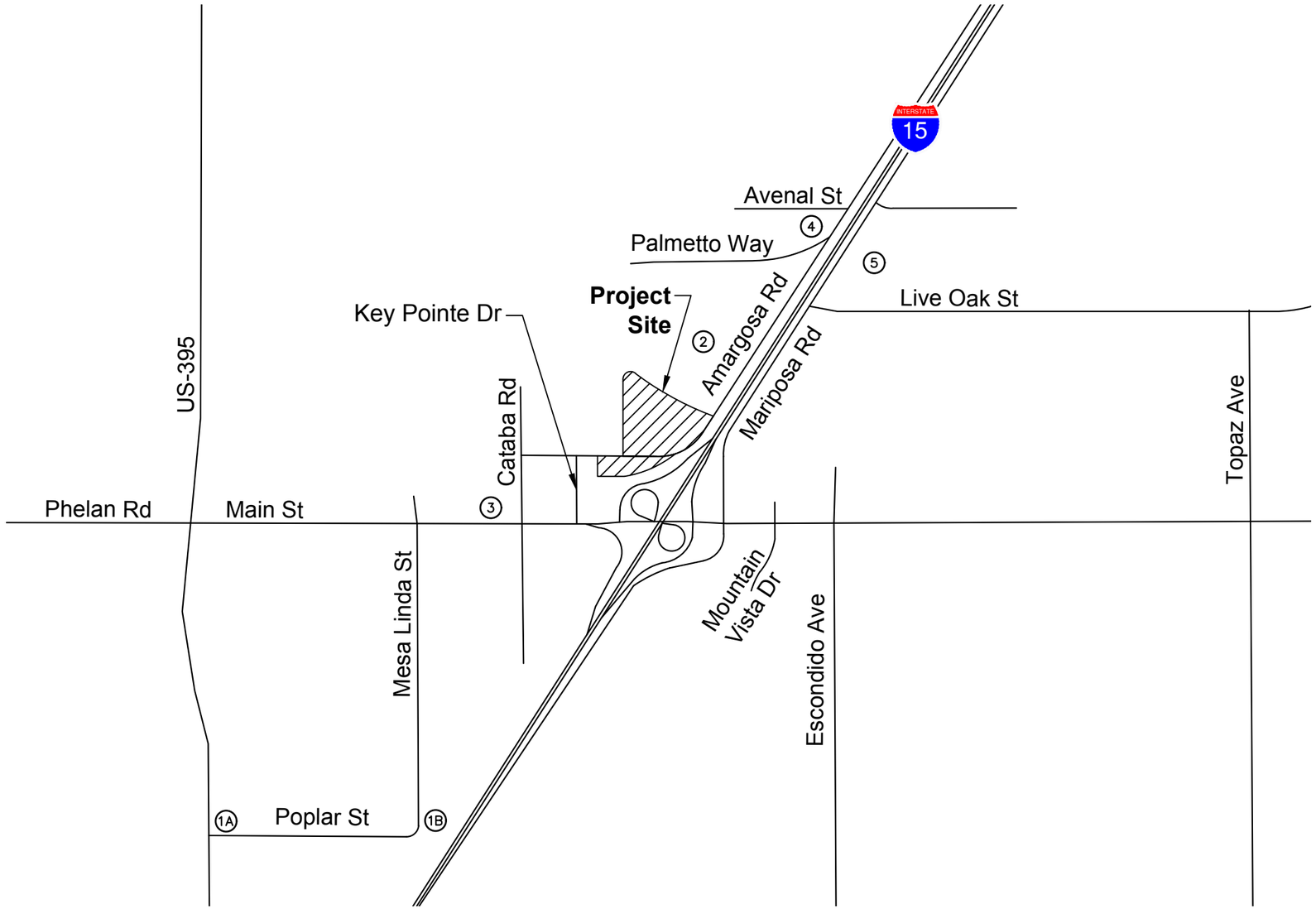
S = Signalized; U = Unsignalized

TABLE 2
SUMMARY OF CUMULATIVE PROJECTS TRIP GENERATION

Project #	Project Name	Location	Land Use	Quantity	Unit	Trip Generation Estimates						
						Daily	AM Peak Hour			PM Peak Hour		
							In	Out	Total	In	Out	Total
1A	I-15 Industrial Park	NEC of US-395 and Poplar St	High-Cube Fulfillment Center Warehouse	742.000	KSF	1,343	91	22	113	46	73	119
1B		NEC of Mesa Linda St and Poplar St	High-Cube Fulfillment Center Warehouse	1,108.000	KSF	2,005	135	32	167	69	109	178
2	Pixior	W of Amargosa Rd, and N of the California Aqueduct	High-Cube Fulfillment Center Warehouse	440.000	KSF	796	54	13	67	27	43	70
3	Quick Quack Car Wash	N of Main St, and W of Cataba Rd	Automated Car Wash	3.596	KSF	--	--	--	--	26	26	52
4	Industrial Building	W of Amargosa Rd between Avenal St and Palmetto Way	High-Cube Fulfillment Center Warehouse	499.850	KSF	905	61	14	75	31	49	80
5	The Grid (Phase I)	E of Mariposa Rd between Live Oak St and Avenal St	Strip Retail Plaza (<40k)	20.000	KSF	1,089	28	19	47	66	66	132
Total Project Trips						**6,138**	**369**	**100**	**469**	**265**	**366**	**631**

KSF = Thousand Square Feet

NOT TO SCALE



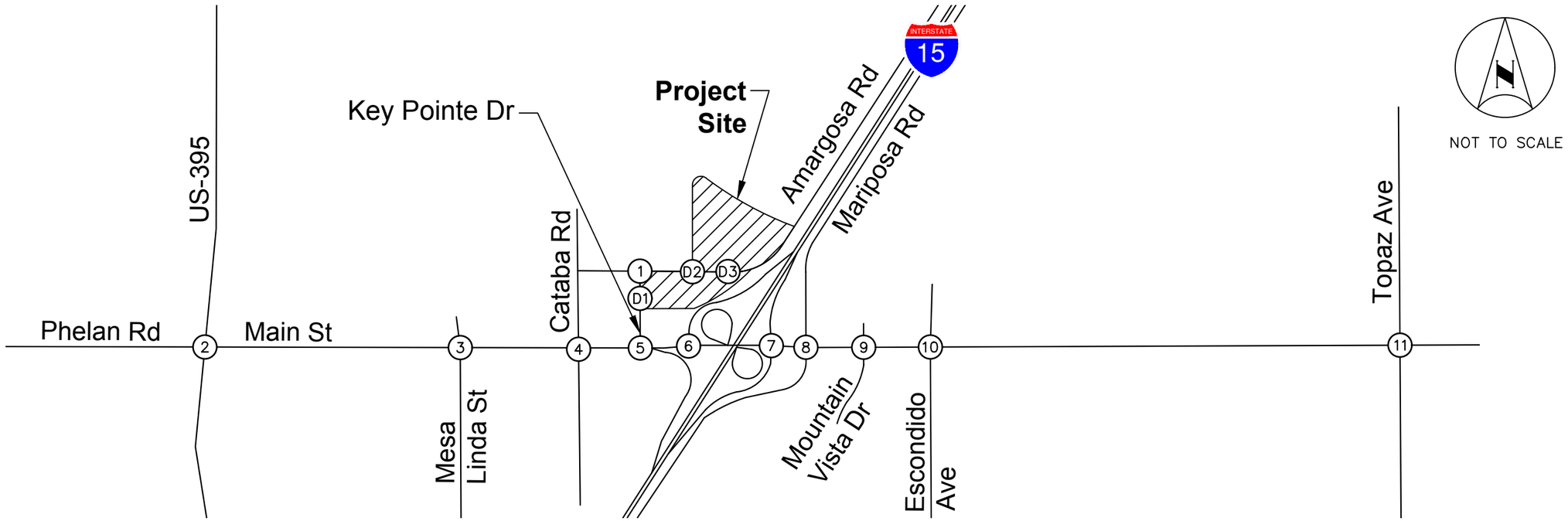
LEGEND:

= Project Site

(X) = Cumulative Project

FIGURE 6
LOCATION OF CUMULATIVE PROJECTS

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1. Key Pointe Dr at Amargosa Rd	2. US-395 at Phelan Rd/Main St	3. Mesa Linda St at Main St	4. Cataba Rd at Main St	5. Key Pointe Dr at Main St	6. I-15 SB Ramps at Main St	7. I-15 NB Ramps at Main St	8. Mariposa Rd at Main St
←9/32 ←7/23 40/20→ ↑29/15	←4/15 ←90/46 13/12→ ↑22/73	←94/61 ←57/29 35/85→ ↑14/46	↑3/9 ↰7/30 ←29/22 ←148/85 12/6↘ 36/128→	↑7/23 ←29/15 ←177/106 43/157→	↑68/40 ↑6/13 ←4/13 ←138/80 33/121→ 16/59↘	←4/13 ←74/55 24/75→ 16/59↘ ↑68/40 ↑6/13	↑9/30 ↑1/3 ←1/3 ←69/38 13/30↘ 17/58→

9. Mountain Vista Ave at Main St	10. Escondido Ave at Main St	11. Topaz Ave at Main St	D1. Key Pointe Dr at South Fuel Entrance Driveway	D2. Amargosa Rd at West Retail Driveway/West Fuel Driveway	D3. Amargosa Rd at East Retail Driveway/East Fuel Exit Driveway
←70/41 18/61→	←70/41 18/61→	←70/41 18/61→	←7/23 29/15→	←16/55 69/35→	←16/55 69/35→

LEGEND:
= Project Site
Ⓧ = Study Intersection
XX/YY = AM/PM Volumes

FIGURE 7
CUMULATIVE PROJECTS TRAFFIC VOLUMES

The ambient growth and the traffic volumes from the Cumulative Projects were added to the Existing peak hour volumes to develop Opening Year 2026 Cumulative traffic forecasts. The resulting traffic volumes are shown in **Figure 8**.

Peak Hour Operating Conditions

Intersection LOS analysis was conducted for the morning and evening peak hours for the Opening Year 2026 Cumulative conditions. The results are shown on **Table 3**. Intersection analysis worksheets for this scenario are provided in ***Appendix D***.

Review of this table indicates that all study intersections would operate at an acceptable LOS under Opening Year 2026 Cumulative conditions, except for the following intersection:

- #2 – US-395 at Phelan Road/Main Street: PM – LOS E

PROJECT TRAFFIC

Trip Generation

Trip estimates for the proposed project were calculated using average trip rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition) for Shopping Center (>150k) (ITE Land Use 820), Gasoline/Service Station (ITE Land Use 944), and Automated Car Wash (ITE Land Use 948).

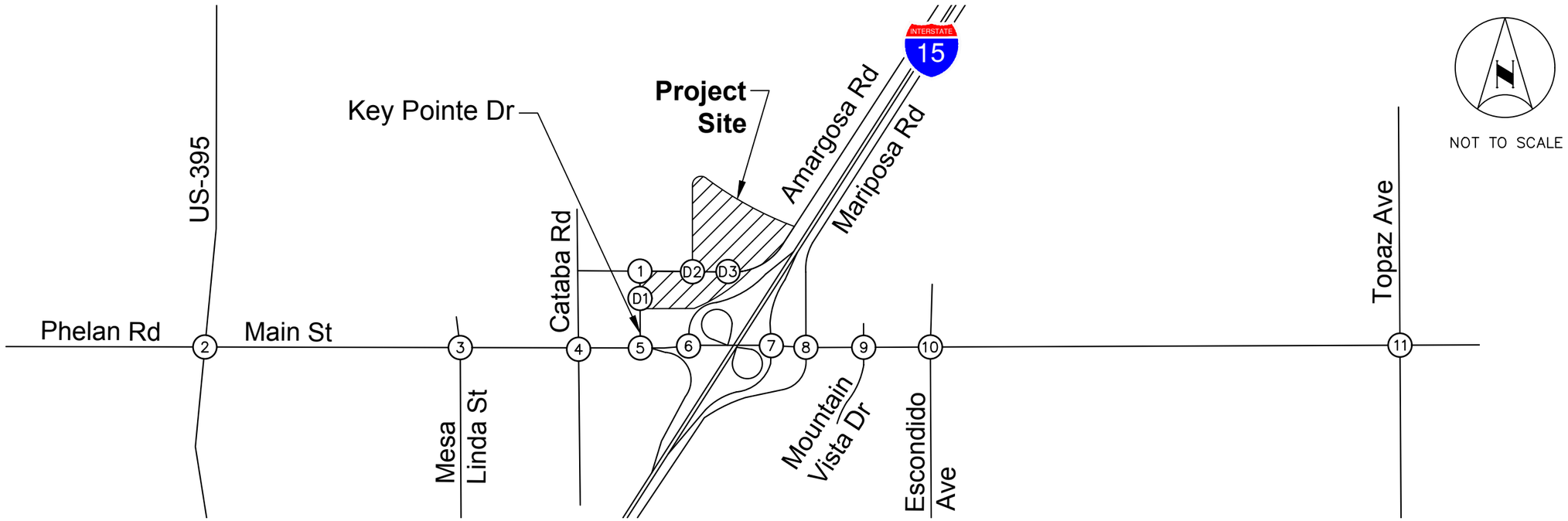
Pass-by reduction factors were applied to applicable uses based on the ITE Trip Generation Manual (11th Edition).

Trip generation rates and the resulting trip generation estimates for the proposed uses are summarized on **Table 4**. Based on review of Table 4, after applying pass-by reductions, the proposed project is estimated to generate approximately 7,251 net new trips on a daily basis, with 324 net new trips (179 inbound and 145 outbound) in the AM peak hour, and 651 net new trips (318 inbound and 333 outbound) in the PM peak hour.

Trip Distribution and Assignment

Trip distribution assumptions for the project were based on the proximity to regional and local roadways and existing travel patterns. Trip distribution percentages at each study intersection were applied to the project trip generation to determine the project trips through each intersection. Project trip distribution for the project is shown on **Figure 9.**

Figure 10 shows new project trips that would be added to the study intersections. These trips do not include pass-by trips, which would typically be added to project driveways but not to non-adjacent study intersections. Pass-by trips were applied at Intersections #1, #5, #D1, #D2, and #D3, as those locations include/are adjacent to project driveways. Pass-by trips are shown on **Figure 11** and were added to the volumes shown on Figure 10 to determine the total project trips at each study intersection. The total project trips are shown on **Figure 12**.



1. Key Pointe Dr at Amargosa Rd	2. US-395 at Phelan Rd/Main St	3. Mesa Linda St at Main St	4. Cataba Rd at Main St	5. Key Pointe Dr at Main St	6. I-15 SB Ramps at Main St	7. I-15 NB Ramps at Main St	8. Mariposa Rd at Main St
←60/180 ←119/313 120/141→ 5/14↘ 5/6↑ 177/269↑	22/36↖ 730/557← 239/246↙ 190/471↑ 312/594← 100/52↖ 29/37↘ 743/532→ 104/46↘ 50/103↑ 537/920↑ 30/129↑	11/1↖ 0/1← 37/24↙ 18/46↑ 704/1099← 116/74↖ 5/6↘ 987/1000→ 9/15↘ 2/16↑ 1/2↑ 41/129↑	51/128↖ 9/41← 42/72↙ 48/51↑ 716/902← 144/180↖ 78/92↘ 806/871→ 90/146↘ 52/157↑ 14/49↑ 113/191↑	10/20↖ 25/83← 125/250↙ 154/202↑ 836/1160← 133/280↖ 21/40↘ 1025/1127→ 9/21↘ 7/31↑ 10/50↑ 58/226↑	247/343↖ 250/502← 527/369↑ 886/1256← 1106/1348→ 104/203↘	495/420↑ 1236/1382← 1069/1502→ 301/320↘ 127/230↑ 2/4↑ 404/773↑	177/240↖ 119/100← 71/151↙ 57/114↑ 1422/1399← 106/83↖ 140/324↘ 1177/1760→ 119/194↘ 73/104↑ 48/99↑ 51/64↑

9. Mountain Vista Ave at Main St	10. Escondido Ave at Main St	11. Topaz Ave at Main St	D1. Key Pointe Dr at South Fuel Entrance Driveway	D2. Amargosa Rd at West Retail Driveway/West Fuel Driveway	D3. Amargosa Rd at East Retail Driveway/East Fuel Exit Driveway
32/19↖ 3/7← 106/71↙ 98/50↑ 1587/1612← 61/92↖ 27/36↘ 1262/1941→ 8/30↘ 14/66↑ 0/4↑ 19/45↑	12/233↖ 2/38← 3/51↙ 6/7↑ 932/1064← 331/424↖ 10/47↘ 916/1325→ 447/621↘ 651/492↑ 15/230↑ 338/314↑	92/48↖ 79/35← 114/55↙ 107/59↑ 1032/1280← 29/57↖ 64/53↘ 1134/1368→ 99/210↘ 182/168↑ 73/34↑ 54/61↑	125/327← 182/275→	179/493← 297/409→	179/493← 297/409→

LEGEND:
- = Project Site
- Ⓧ = Study Intersection
- XX/YY = AM/PM Volumes

FIGURE 8
OPENING YEAR 2026 CUMULATIVE TRAFFIC VOLUMES

TABLE 3
SUMMARY OF INTERSECTION OPERATION
OPENING YEAR 2026 CUMULATIVE CONDITIONS

Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Key Pointe Drive at Amargosa Road	U	13.0	B	24.0	C
2	US-395 at Phelan Road/Main Street	S	32.0	C	67.4	**E**
3	Mesa Linda Street at Main Street	S	12.9	B	12.9	B
4	Cataba Road at Main Street	S	21.0	C	28.2	C
5	Key Pointe Drive at Main Street	S	12.9	B	24.5	C
6	I-15 SB Ramps at Main Street	S	10.5	B	13.4	B
7	I-15 NB Ramps at Main Street	S	10.1	B	15.5	B
8	Mariposa Road at Main Street	S	20.6	C	29.4	C
9	Mountain Vista Avenue at Main Street	S	13.4	B	16.3	B
10	Escondido Avenue at Main Street	S	27.6	C	43.5	D
11	Topaz Avenue at Main Street	S	26.0	C	18.5	B
D1	Key Pointe Drive at South Fuel Entrance Driveway	Future Intersection				
D2	Amargosa Road at West Retail Driveway/West Fuel Driveway	Future Intersection				
D3	Amargosa Road at East Retail Driveway/East Fuel Exit Driveway	Future Intersection				

Notes:
- **Bold** values indicate intersections operating at an unacceptable Level of Service

- Delay values for signalized intersections represent the average control delay for the entire intersection, measured in seconds per vehicle.

- Delay values for unsignalized intersections represent the average vehicle delay on the worst (highest delay) intersection approach.

S = Signalized; U = Unsignalized

TABLE 4
SUMMARY OF PROJECT TRIP GENERATION
HESPERIA BIG BOX RETAIL, CAR WASH, AND FUEL STATION PROJECT

Land Use	ITE Code	Unit	Trip Generation Rates [1]						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Shopping Center (>150k)	820	KSF	37.010	0.521	0.319	0.840	1.632	1.768	3.400
Gasoline/Service Station	944	Fueling Position	172.010	5.140	5.140	10.280	6.955	6.955	13.910
Automated Car Wash	948	Tunnel	775.000	38.750	38.750	77.500	38.75	38.75	77.5

Land Use	Quantity	Unit	Trip Generation Estimates						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Shopping Center (>150k)	167.664	KSF	6,205	87	53	140	274	296	570
Pass-by Trips (14.5% Daily, 0% AM, 29% PM) [1,2]			*-1,799*	*0*	*0*	*0*	*-79*	*-86*	*-165*
Net Trips			***4,406***	***87***	***53***	***140***	***195***	***210***	***405***
Gasoline/Service Station	28	Fueling Position	4,816	144	144	288	195	195	390
Pass-by Trips (60% Daily, 63% AM, 57% PM) [1,2]			*-2,745*	*-91*	*-91*	*-182*	*-111*	*-111*	*-222*
Net Trips			***2,071***	***53***	***53***	***106***	***84***	***84***	***168***
Automated Car Wash [3]	1	Tunnel	775	39	39	*78*	39	39	78
Net Trips			**775**	**39**	**39**	**78**	**39**	**39**	**78**
Total Project Trips			**7,251**	**179**	**145**	**324**	**318**	**333**	**651**

[1] Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition

[2] Daily Pass-By rates were calculated using the average of AM and PM Pass-By rates

[3] No Daily or AM trip rate data is published by ITE for LU 948 (Automated Car Wash). To maintain a conservative analysis, AM trips were assumed to be equivalent to PM trips, and daily trips were assumed to be 10 times the PM peak.

NOT TO SCALE

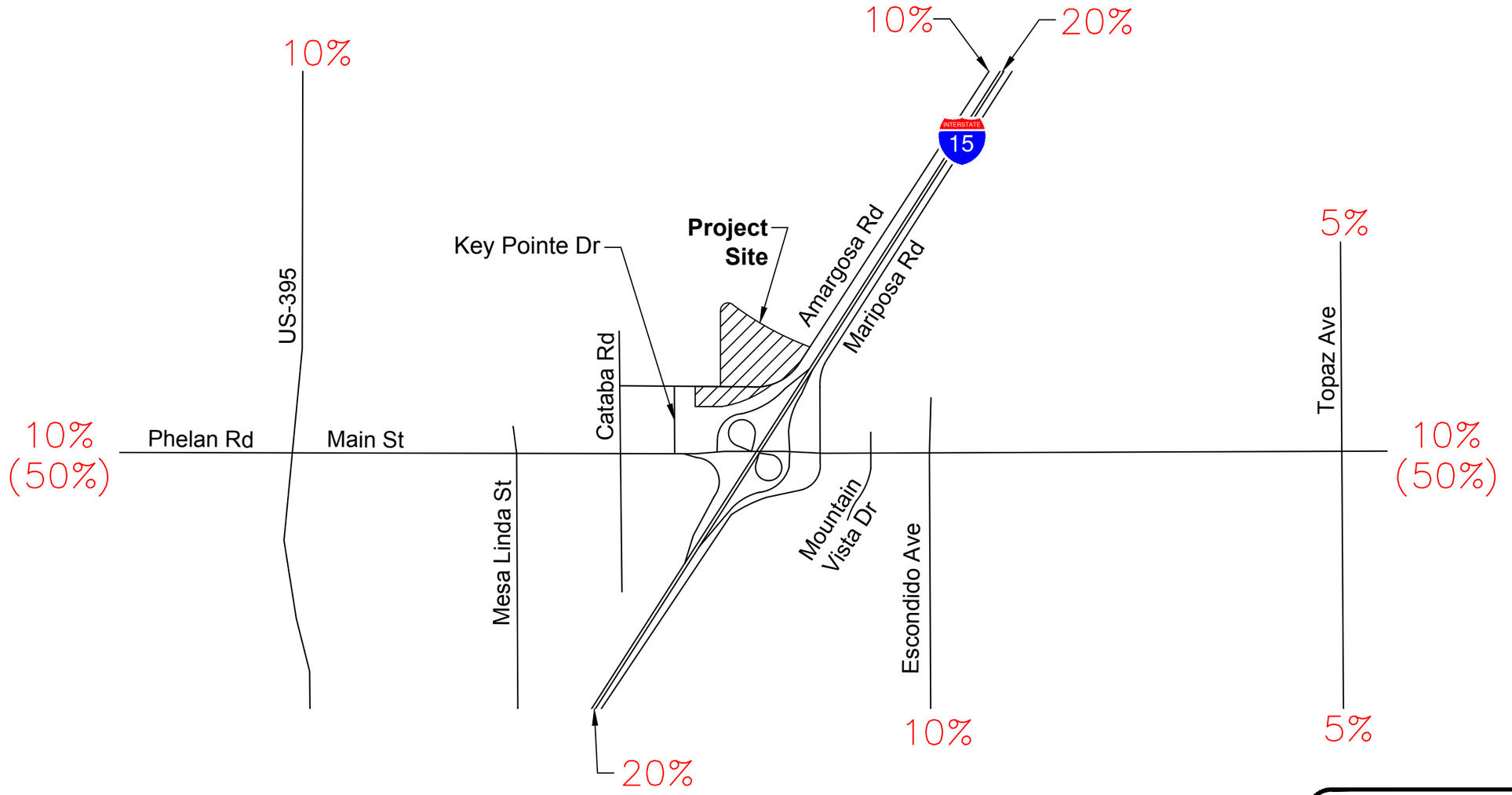
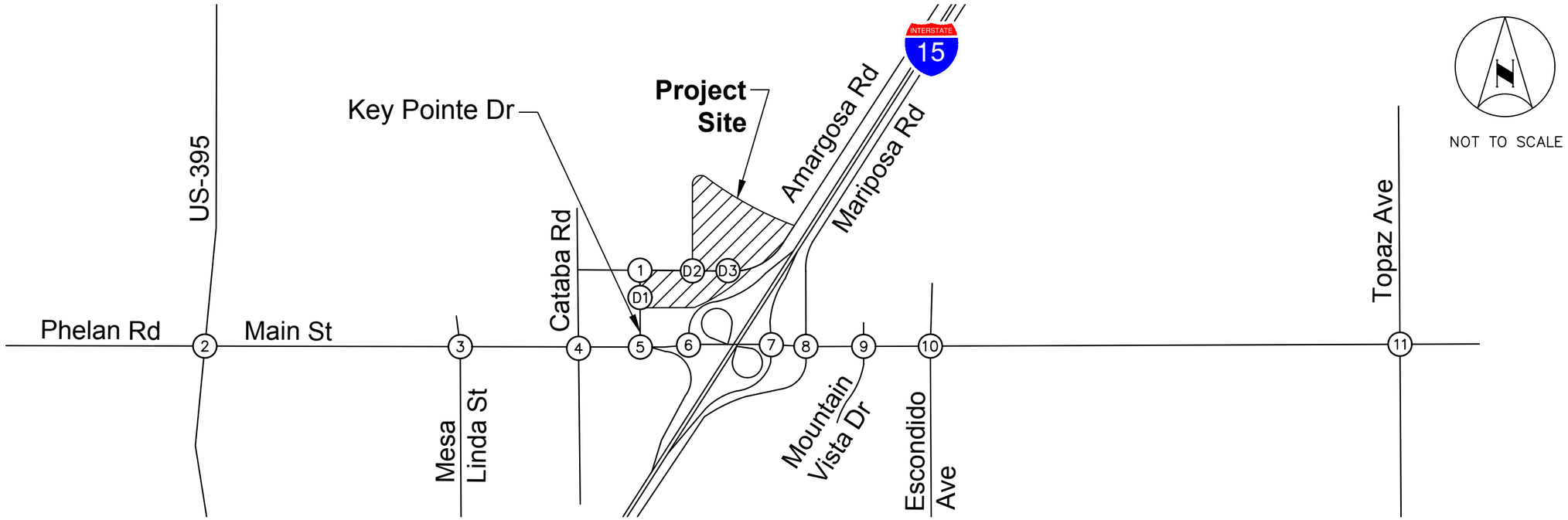


FIGURE 9
PROJECT TRIP DISTRIBUTION

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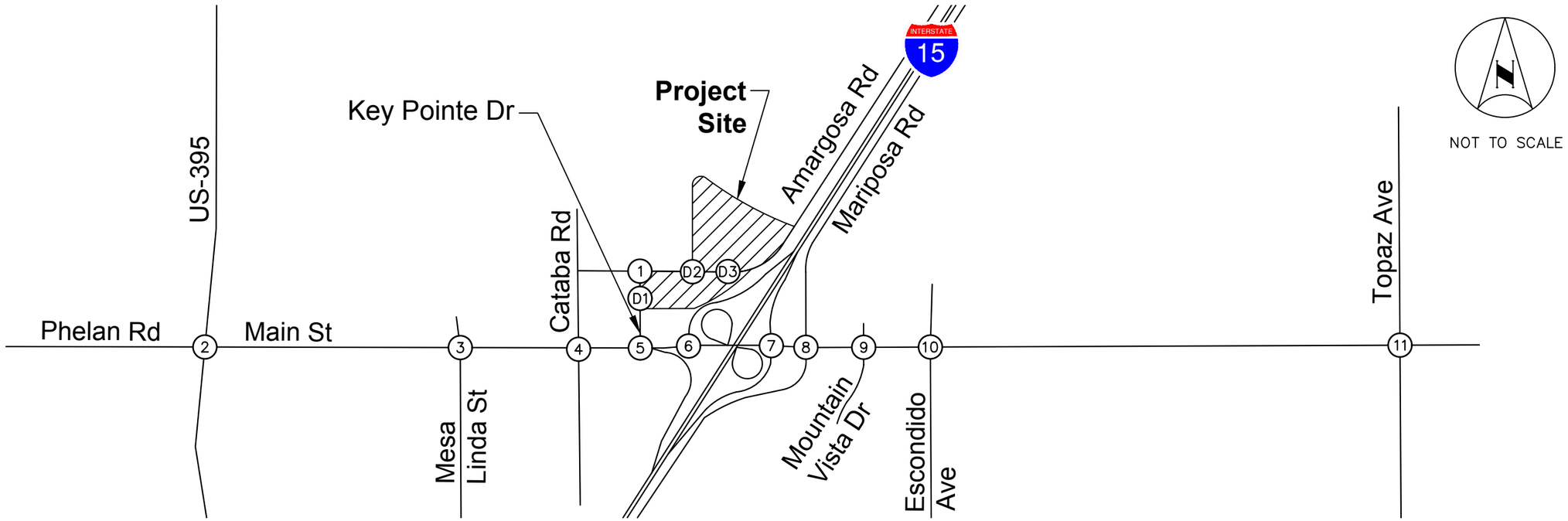


1. Key Pointe Dr at Amargosa Rd	2. US-395 at Phelan Rd/Main St	3. Mesa Linda St at Main St	4. Cataba Rd at Main St	5. Key Pointe Dr at Main St	6. I-15 SB Ramps at Main St	7. I-15 NB Ramps at Main St	8. Mariposa Rd at Main St
← 140/312 97/203 ↑	18/32 ↓ 14/33 ↑ 14/33 ←	← 28/66 36/64 →	← 28/66 36/64 →	28/66 ↓ 103/234 ↑ 125/224 ← 36/64 ↘	35/64 ↓ ← 90/160 73/167 → 30/67 ↘	← 54/96 44/100 → 29/67 ↘ 36/64 ↑	← 54/96 44/100 →

9. Mountain Vista Ave at Main St	10. Escondido Ave at Main St	11. Topaz Ave at Main St	D1. Key Pointe Dr at South Fuel Entrance Driveway	D2. Amargosa Rd at West Retail Driveway/West Fuel Driveway	D3. Amargosa Rd at East Retail Driveway/East Fuel Exit Driveway
← 54/96 44/100 →	← 36/64 30/67 → 14/33 ↘ 18/32 ↑	9/16 ↓ ← 18/32 8/17 ↑ 14/33 → 8/17 ↘ 9/16 ↑	← 131/300 9/12 ↓ 97/203 → 64/85 ↑	37/148 ↓ 5/21 ↓ ← 20/53 61/139 → 17/39 → 19/25 ↘ 83/111 ↑ 5/6 ↑	11/41 ↓ 9/20 ↑ ← 9/12 17/39 ↑ 10/27 → 5/6 ↑

LEGEND:
= Project Site
Ⓧ = Study Intersection
XX/YY = AM/PM Volumes

FIGURE 10
PROJECT-RELATED TRAFFIC VOLUMES

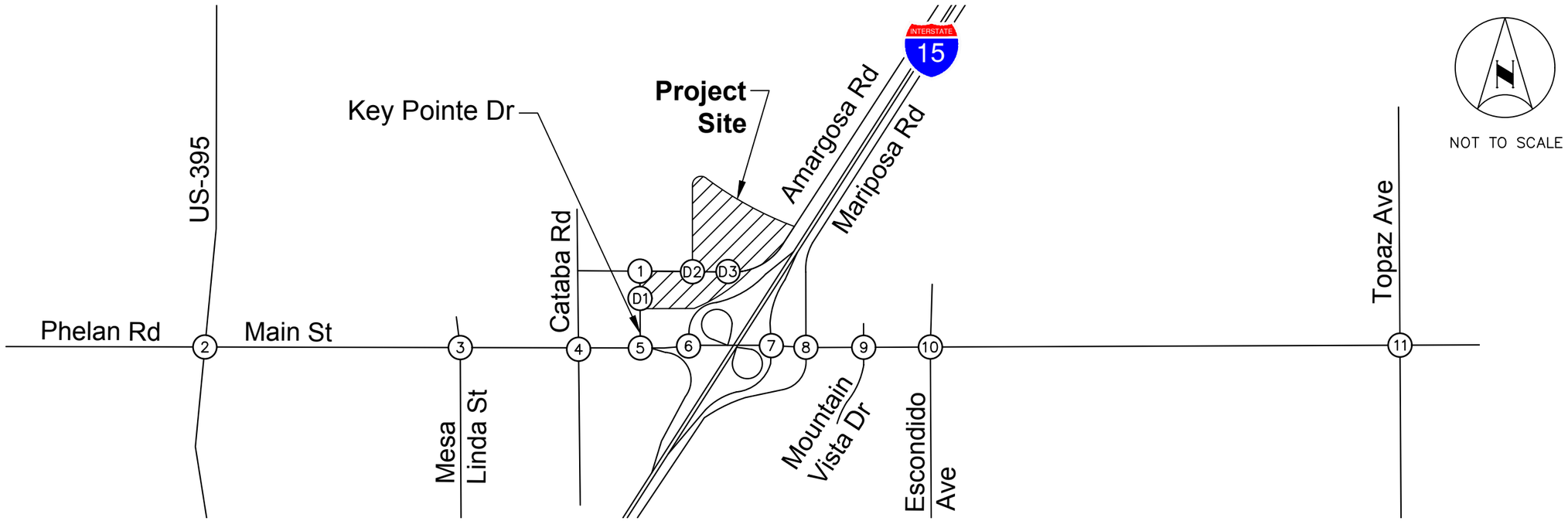


1. Key Pointe Dr at Amargosa Rd	2. US-395 at Phelan Rd/Main St	3. Mesa Linda St at Main St	4. Cataba Rd at Main St	5. Key Pointe Dr at Main St	6. I-15 SB Ramps at Main St	7. I-15 NB Ramps at Main St	8. Mariposa Rd at Main St
← 91/197 18/101 →				45/98 ↖ 46/99 ↖ 45/94 → ← −45/−94 46/96 → −46/−96 →			

9. Mountain Vista Ave at Main St	10. Escondido Ave at Main St	11. Topaz Ave at Main St	D1. Key Pointe Dr at South Fuel Entrance Driveway	D2. Amargosa Rd at West Retail Driveway/West Fuel Driveway	D3. Amargosa Rd at East Retail Driveway/East Fuel Exit Driveway
			← 46/197 18/101 → 73/89 ↗	0/69 ↙ ←0/17 0/63 → 0/16 → 18/22 ↘ 91/111 ↗	0/17 ↙ 0/16 →

LEGEND:
= Project Site
(X) = Study Intersection
XX/YY = AM/PM Volumes

FIGURE 11
PASS-BY TRAFFIC VOLUMES



1. Key Pointe Dr at Amargosa Rd	2. US-395 at Phelan Rd/Main St	3. Mesa Linda St at Main St	4. Cataba Rd at Main St	5. Key Pointe Dr at Main St	6. I-15 SB Ramps at Main St	7. I-15 NB Ramps at Main St	8. Mariposa Rd at Main St
← 231/509 115/304 ↑	18/32 ↓ 14/33 ↑ 14/33 ←	← 28/66 36/64 →	← 28/66 36/64 →	73/164 ↓ 149/333 ↓ 170/318 ↑ 82/160 ↓ −46/−96 →	35/64 ↓ ← 90/160 73/167 → 30/67 ↓	← 54/96 44/100 → 29/67 ↓ 36/64 ↑	← 54/96 44/100 →

9. Mountain Vista Ave at Main St	10. Escondido Ave at Main St	11. Topaz Ave at Main St	D1. Key Pointe Dr at South Fuel Entrance Driveway	D2. Amargosa Rd at West Retail Driveway/West Fuel Driveway	D3. Amargosa Rd at East Retail Driveway/East Fuel Exit Driveway
← 54/96 44/100 →	← 36/64 30/67 ↓ 14/33 → 18/32 ↑	9/16 ↓ ← 18/32 8/17 ↓ 14/33 → 8/17 ↓ 9/16 ↑	← 177/497 ← 9/12 115/304 ↑ 137/174 ↑	37/217 ↓ 5/21 ↓ ← 20/70 61/202 ↓ 17/55 → 37/47 ↓ 174/222 ↑ 5/6 ↑	11/58 ↓ 9/20 ↑ ← 9/12 17/55 ↑ 10/27 → 5/6 ↑

LEGEND:
= Project Site
Ⓧ = Study Intersection
XX/YY = AM/PM Volumes

FIGURE 12
TOTAL PROJECT TRAFFIC VOLUMES

FUTURE CONDITIONS PLUS PROJECT

Opening Year 2026 Cumulative Plus Project

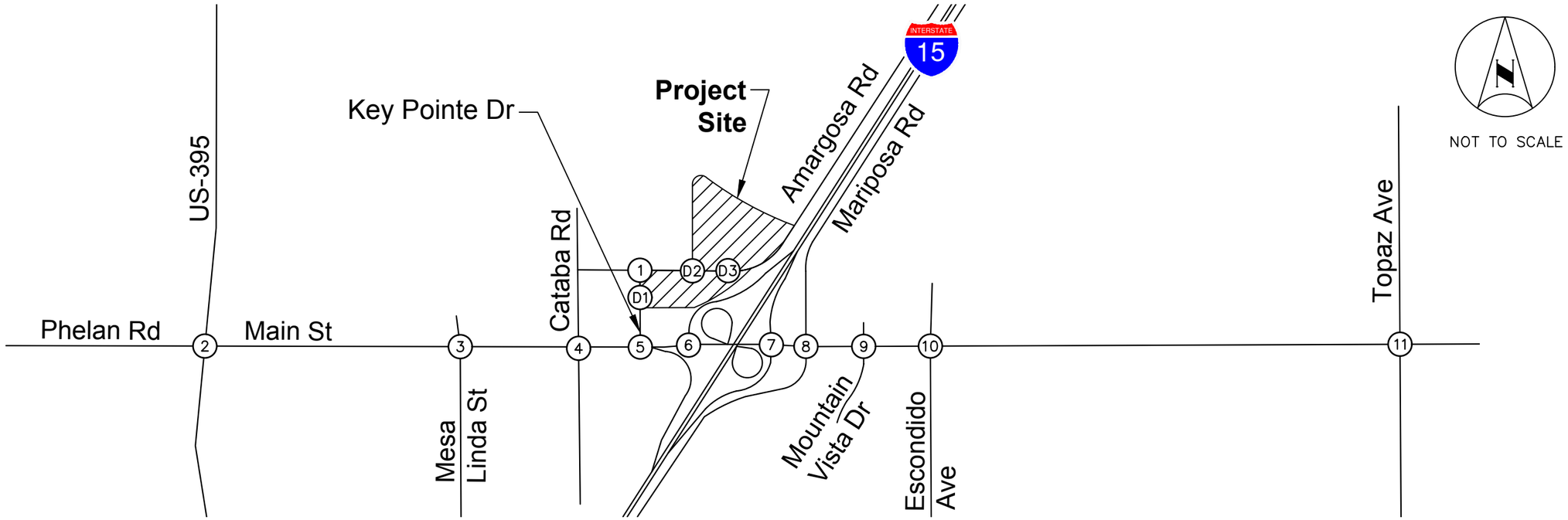
Project-related traffic was added to the Opening Year 2026 Cumulative traffic volumes, and the resulting morning and evening peak hour volumes are presented on **Figure 13**.

Peak Hour Operating Conditions

Intersection LOS analysis was conducted for the morning and evening peak hours for the Opening Year 2026 Cumulative Plus Project conditions. The results of the intersection analysis are shown on **Table 5**. Copies of intersection analysis worksheets for this scenario are provided in ***Appendix D***.

Review of this table indicates that all study intersections would operate at an acceptable LOS under Opening Year 2026 Cumulative Plus Project conditions, except for the following intersections:

- #1 – Key Pointe Drive at Amargosa Road: PM – LOS F
- #2 – US-395 at Phelan Road/Main Street: PM – LOS E
- #5 – Key Pointe Drive at Main Street: PM – LOS E



1. Key Pointe Dr at Amargosa Rd	2. US-395 at Phelan Rd/Main St	3. Mesa Linda St at Main St	4. Cataba Rd at Main St	5. Key Pointe Dr at Main St	6. I-15 SB Ramps at Main St	7. I-15 NB Ramps at Main St	8. Mariposa Rd at Main St
←60/180 ←350/822 120/141→ 5/14↘ 5/6↑ 292/573↑	22/36↖ 730/557← 257/278↙ 204/504↑ 326/627← 100/52↖ 29/37→ 761/564→ 104/46↘ 50/103↑ 537/920↑ 30/129↑	11/1↖ 0/1← 37/24↙ 18/46↑ 732/1165← 116/74↖ 5/6→ 1023/1064→ 9/15↘ 2/16↑ 1/2↑ 41/129↑	51/128↖ 9/41← 42/72↙ 48/51↑ 744/968← 144/180↖ 78/92→ 842/935→ 90/146↘ 52/157↑ 14/49↑ 113/191↑	83/184↖ 25/83← 274/583↙ 324/520↑ 791/1066← 133/280↖ 103/200→ 979/1031→ 9/21↘ 7/31↑ 10/50↑ 58/226↑	282/407↖ 250/502← 527/369↑ 976/1416← 1179/1515→ 134/270↘	495/420↑ 1290/1478← 1113/1602→ 330/387↘ 163/294↑ 2/4↑ 404/773↑	177/240↖ 119/100← 71/151↙ 57/114↑ 1476/1495← 106/83↖ 140/324→ 1221/1860→ 119/194↘ 73/104↑ 48/99↑ 51/64↑

9. Mountain Vista Ave at Main St	10. Escondido Ave at Main St	11. Topaz Ave at Main St	D1. Key Pointe Dr at South Fuel Entrance Driveway	D2. Amargosa Rd at West Retail Driveway/West Fuel Driveway	D3. Amargosa Rd at East Retail Driveway/East Fuel Exit Driveway
32/19↖ 3/7← 106/71↙ 98/50↑ 1641/1708← 61/92↖ 27/36→ 1306/2041→ 8/30↘ 14/66↑ 0/4↑ 19/45↑	12/233↖ 2/38← 3/51↙ 6/7↑ 968/1128← 331/424↖ 10/47→ 946/1392→ 461/654↘ 669/524↑ 15/230↑ 338/314↑	101/64↖ 79/35← 114/55↙ 107/59↑ 1050/1312← 29/57↖ 72/70→ 1148/1401→ 107/227↘ 191/184↑ 73/34↑ 54/61↑	302/824↖ 9/12← 297/579→ 137/174↘	37/217↖ 5/21← 199/563↙ 61/202→ 314/464→ 37/47↘ 174/222↑ 5/6↑	11/58↖ 9/20↑ 188/505← 17/55→ 307/436→ 5/6↑

LEGEND:
= Project Site
Ⓧ = Study Intersection
XX/YY = AM/PM Volumes

FIGURE 13
OPENING YEAR 2026 CUMULATIVE PLUS PROJECT TRAFFIC VOLUMES

TABLE 5
SUMMARY OF INTERSECTION OPERATION
OPENING YEAR 2026 CUMULATIVE PLUS PROJECT CONDITIONS

Int. #	Intersection	Traffic Control	AM Peak Hour						PM Peak Hour					
			Without Project		With Project		Change in Delay	Project Effect?	Without Project		With Project		Change in Delay	Project Effect?
			Delay	LOS	Delay	LOS			Delay	LOS	Delay	LOS		
1	Key Pointe Drive at Amargosa Road	U	13.0	B	29.6	D	16.6	No	24.0	C	>180	**F**	--	**Yes**
2	US-395 at Phelan Road/Main Street	S	32.0	C	32.6	C	0.6	No	67.4	**E**	75.4	**E**	8.0	**Yes**
3	Mesa Linda Street at Main Street	S	12.9	B	12.8	B	-0.1	No	12.9	B	12.9	B	0.0	No
4	Cataba Road at Main Street	S	21.0	C	20.8	C	-0.2	No	28.2	C	28.0	C	-0.2	No
5	Key Pointe Drive at Main Street	S	12.9	B	20.6	C	7.7	No	24.5	C	78.7	**E**	54.2	**Yes**
6	I-15 SB Ramps at Main Street	S	10.5	B	10.8	B	0.3	No	13.4	B	14.7	B	1.3	No
7	I-15 NB Ramps at Main Street	S	10.1	B	10.3	B	0.2	No	15.5	B	15.7	B	0.2	No
8	Mariposa Road at Main Street	S	20.6	C	20.7	C	0.1	No	29.4	C	30.7	C	1.3	No
9	Mountain Vista Avenue at Main Street	S	13.4	B	13.4	B	0.0	No	16.3	B	16.5	B	0.2	No
10	Escondido Avenue at Main Street	S	27.6	C	27.9	C	0.3	No	43.5	D	47.6	D	4.1	No
11	Topaz Avenue at Main Street	S	26.0	C	27.2	C	1.2	No	18.5	B	20.9	C	2.4	No
D1	Key Pointe Drive at South Fuel Entrance Driveway	U	--	--	8.3	A	--	--	--	--	9.4	A	--	--
D2	Amargosa Road at West Retail Driveway/West Fuel Driveway	S	--	--	12.9	B	--	--	--	--	21.7	C	--	--
D3	Amargosa Road at East Retail Driveway/East Fuel Exit Driveway	U	--	--	9.2	A	--	--	--	--	10.4	B	--	--

Notes:
- **Bold** values indicate intersections operating at an unacceptable Level of Service
- Delay values for signalized intersections represent the average control delay for the entire intersection, measured in seconds per vehicle.
- Delay values for unsignalized intersections represent the average vehicle delay on the worst (highest delay) intersection approach.

HORIZON YEAR CONDITIONS

Horizon Year 2045 Conditions

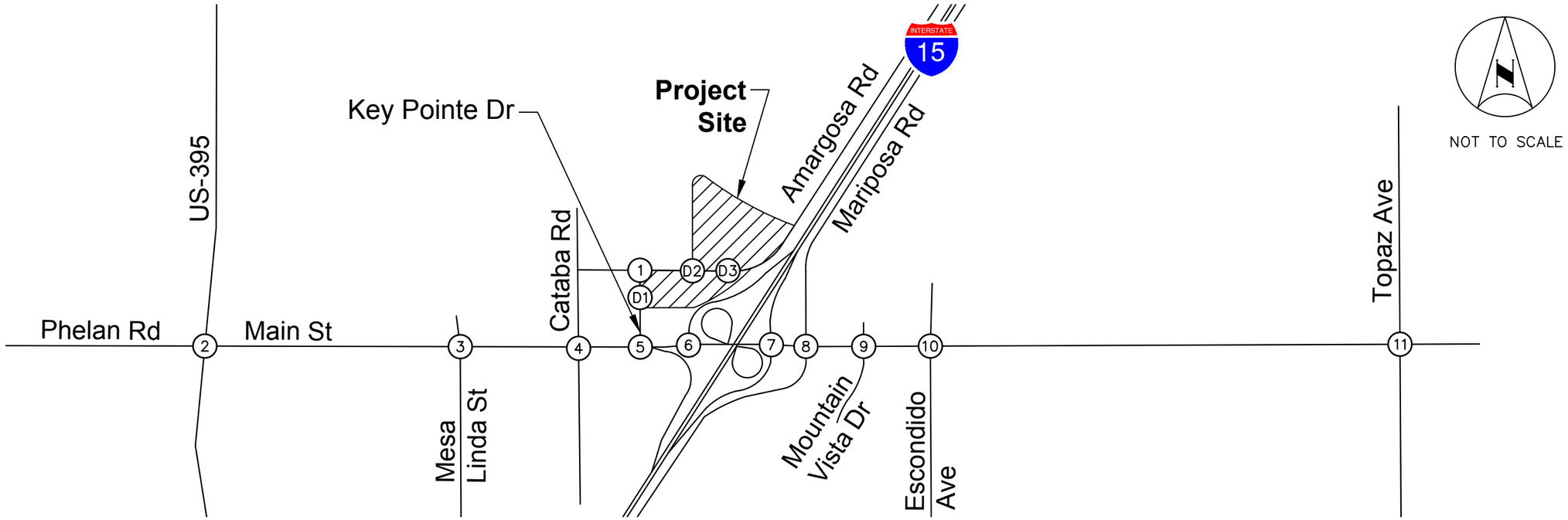
To derive the Horizon Year 2045 intersection turning movement forecasts, the San Bernardino Transportation Analysis Model (SBTAM) Base Year 2019 and Build-out Year 2050 future traffic projections were used. The raw volumes obtained from the model output were post-processed by determining the annual growth between the base model year and the future model year and applying the growth increment to existing count volumes. This was accomplished using the B-Turns methodology, developed by the Federal Highway Administration (FHWA). As a conservative approach, if a turning movement volume produced by this process was less than the Opening Year 2026 Cumulative forecast volume for that movement, manual adjustments were made to assure that all forecast build-out year turning movement volumes would not be less than the Opening Year 2026 Cumulative forecast volumes. The SBTAM Model plots and B-Turns worksheets are provided in ***Appendix F***. The resulting traffic volumes for Horizon Year 2045 are shown on **Figure 14**.

Peak Hour Operating Conditions

Intersection LOS analysis was conducted for the morning and evening peak hours for the Horizon Year 2045 conditions. The results of the intersection analysis are shown on **Table 6.** Copies of intersection analysis worksheets for this scenario are provided in ***Appendix D***.

Review of this table indicates that all study intersections would operate at an acceptable LOS under Horizon Year 2045 conditions, except for the following intersection:

- #2 – US-395 at Phelan Road/Main Street: AM & PM – LOS F



1. Key Pointe Dr at Amargosa Rd	2. US-395 at Phelan Rd/Main St	3. Mesa Linda St at Main St	4. Cataba Rd at Main St	5. Key Pointe Dr at Main St	6. I-15 SB Ramps at Main St	7. I-15 NB Ramps at Main St	8. Mariposa Rd at Main St
←60/180 ←358/313	29/117 ← 1686/1277 ← 261/623 ← 622/554 ← 637/1011 ← 100/52	34/5 ← 0/1 ← 37/24 ← 18/46 ← 1384/1520 ← 116/74	54/128 ← 9/41 ← 42/72 ← 48/51 ← 1154/1062 ← 160/180	33/20 ← 38/83 ← 247/250 ← 154/234 ← 1235/1289 ← 133/280	389/343 ← 252/502 ← 527/369 ← 1329/1446	←571/604 ←1600/1382	177/240 ← 170/107 ← 122/190 ← 98/167 ← 1878/1421 ← 224/127
120/141 → 7/27 ↘ 5/24 ↑ 177/396 ↑	71/44 → 937/705 → 282/56 ↘ 65/293 ↑ 1108/1764 ↑ 30/129 ↑	13/22 → 1010/1430 → 22/15 ↘ 2/45 ↑ 1/3 ↑ 41/129 ↑	78/97 → 806/1201 → 90/153 ↘ 62/157 ↑ 14/49 ↑ 113/199 ↑	21/70 → 1025/1392 → 9/29 ↘ 10/34 ↑ 10/56 ↑ 58/226 ↑	1123/1790 → 104/203 ↘	1090/1919 → 301/320 ↘ 127/483 ↑ 2/17 ↑ 404/773 ↑	140/324 → 1192/2063 → 119/196 ↘ 73/104 ↑ 48/139 ↑ 65/111 ↑

9. Mountain Vista Ave at Main St	10. Escondido Ave at Main St	11. Topaz Ave at Main St	D1. Key Pointe Dr at South Fuel Entrance Driveway	D2. Amargosa Rd at West Retail Driveway/West Fuel Driveway	D3. Amargosa Rd at East Retail Driveway/East Fuel Exit Driveway
33/19 ← 3/7 ← 106/71 ← 99/50 ← 2224/1749 ← 61/92	14/233 ← 2/38 ← 3/51 ← 8/7 ← 1535/1149 ← 331/424	124/53 ← 81/35 ← 123/65 ← 126/65 ← 1529/1280 ← 35/57	←365/327	←407/524	←407/524
27/37 → 1345/2329 → 8/31 ↘ 14/66 ↑ 0/4 ↑ 19/45 ↑	12/57 → 996/1706 → 447/621 ↘ 693/505 ↑ 15/230 ↑ 338/317 ↑	64/69 → 1134/1709 → 99/225 ↘ 207/170 ↑ 73/37 ↑ 54/66 ↑	182/431 →	356/500 →	356/500 →

LEGEND:
= Project Site
Ⓧ = Study Intersection
XX/YY = AM/PM Volumes

FIGURE 14
HORIZON YEAR 2045 TRAFFIC VOLUMES

TABLE 6
SUMMARY OF INTERSECTION OPERATION
HORIZON YEAR 2045 CONDITIONS

Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Key Pointe Drive at Amargosa Road	U	23.5	C	25.0	C
2	US-395 at Phelan Road/Main Street	S	122.2	**F**	275.2	**F**
3	Mesa Linda Street at Main Street	S	13.3	B	14.0	B
4	Cataba Road at Main Street	S	20.0	B	26.8	C
5	Key Pointe Drive at Main Street	S	17.0	B	26.7	C
6	I-15 SB Ramps at Main Street	S	12.4	B	13.3	B
7	I-15 NB Ramps at Main Street	S	9.5	A	17.9	B
8	Mariposa Road at Main Street	S	25.4	C	32.4	C
9	Mountain Vista Avenue at Main Street	S	14.1	B	16.7	B
10	Escondido Avenue at Main Street	S	29.8	C	46.7	D
11	Topaz Avenue at Main Street	S	31.9	C	20.9	C
D1	Key Pointe Drive at South Fuel Entrance Driveway	Future Intersection				
D2	Amargosa Road at West Retail Driveway/West Fuel Driveway	Future Intersection				
D3	Amargosa Road at East Retail Driveway/East Fuel Exit Driveway	Future Intersection				

Notes:
- **Bold** values indicate intersections operating at an unacceptable Level of Service

- Delay values for signalized intersections represent the average control delay for the entire intersection, measured in seconds per vehicle.

- Delay values for unsignalized intersections represent the average vehicle delay on the worst (highest delay) intersection approach.

S = Signalized; U = Unsignalized

Horizon Year 2045 Plus Project Conditions

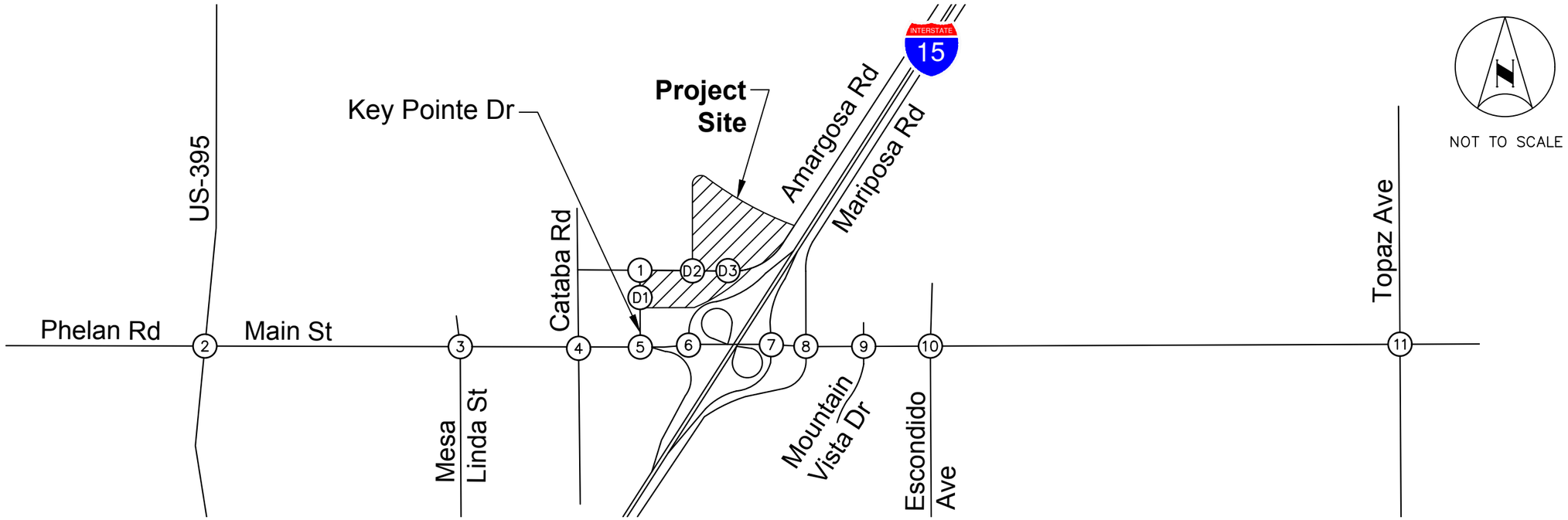
Project-related traffic was added to the Horizon Year 2045 traffic volumes. Horizon Year 2045 Plus Project traffic volumes at the study intersections are shown on **Figure 15**.

Peak Hour Operating Conditions

Intersection LOS analysis was conducted for the morning and evening peak hours for the Horizon Year 2045 Plus Project conditions. The results of the intersection analysis are shown on **Table 7**. Copies of intersection analysis worksheets for this scenario are provided in ***Appendix D***.

Review of this table indicates that all study intersections would operate at an acceptable LOS under Horizon Year 2045 Plus Project conditions, except for the following intersections:

- #1 – Key Pointe Drive at Amargosa Road: AM & PM – LOS F
- #2 – US-395 at Phelan Road/Main Street: AM & PM – LOS F
- #5 – Key Pointe Drive at Main Street: PM – LOS F



1. Key Pointe Dr at Amargosa Rd	2. US-395 at Phelan Rd/Main St	3. Mesa Linda St at Main St	4. Cataba Rd at Main St	5. Key Pointe Dr at Main St	6. I-15 SB Ramps at Main St	7. I-15 NB Ramps at Main St	8. Mariposa Rd at Main St
←60/180 ←589/822 120/141→ 7/27↘ 5/24↑ 292/700↑	29/117↖ 1686/1277← 279/655↙ 636/587↑ 651/1044← 100/52↖ 71/44→ 955/737→ 282/56↘ 65/293↑ 1108/1764→ 30/129↑	34/5↖ 0/1↓ 37/24↖ 18/46↑ 1412/1586← 116/74↖ 13/22→ 1046/1494→ 22/15↘ 2/45↑ 1/3→ 41/129↑	54/128↖ 9/41↓ 42/72↖ 48/51↑ 1182/1128← 160/180↖ 78/97→ 842/1265→ 90/153↘ 62/157↑ 14/49→ 113/199↑	106/184↖ 38/83← 396/583↙ 324/552↑ 1190/1195← 133/280↖ 103/230→ 979/1296→ 9/29↘ 10/34↑ 10/56→ 58/226↑	424/407↖ 252/502↙ 527/369↑ 1419/1606← 1196/1957→ 134/270↘	571/604↑ 1654/1478← 1134/2019→ 330/387↘ 163/547↑ 2/17→ 404/773↑	177/240↖ 170/107← 122/190↙ 98/167↑ 1932/1517← 224/127↖ 140/324→ 1236/2163→ 119/196↘ 73/104↑ 48/139→ 65/111↑

9. Mountain Vista Ave at Main St	10. Escondido Ave at Main St	11. Topaz Ave at Main St	D1. Key Pointe Dr at South Fuel Entrance Driveway	D2. Amargosa Rd at West Retail Driveway/West Fuel Driveway	D3. Amargosa Rd at East Retail Driveway/East Fuel Exit Driveway
33/19↖ 3/7← 106/71↙ 99/50↑ 2278/1845← 61/92↖ 27/37→ 1389/2429→ 8/31↘ 14/66↑ 0/4→ 19/45↑	14/233↖ 2/38← 3/51↙ 8/7↑ 1571/1213← 331/424↖ 12/57→ 1026/1773→ 461/654↘ 711/537↑ 15/230→ 338/317↑	133/69↖ 81/35← 123/65↙ 126/65↑ 1547/1312← 35/57↖ 72/86→ 1148/1742→ 107/242↘ 216/186↑ 73/37→ 54/66↑	542/824↖ 9/12↓ 297/735→ 137/174↑	37/217↖ 5/21↙ 427/594← 61/202→ 373/555→ 37/47↘ 174/222↑ 5/6↑	11/58↖ 9/20↑ 416/536← 17/55→ 366/527→ 5/6↑

LEGEND:
= Project Site
Ⓧ = Study Intersection
XX/YY = AM/PM Volumes

FIGURE 15
HORIZON YEAR 2045 PLUS PROJECT TRAFFIC VOLUMES

TABLE 7
SUMMARY OF INTERSECTION OPERATION
HORIZON YEAR 2045 PLUS PROJECT CONDITIONS

Int. #	Intersection	Traffic Control	AM Peak Hour						PM Peak Hour					
			Without Project		With Project		Change in Delay	Project Effect?	Without Project		With Project		Change in Delay	Project Effect?
			Delay	LOS	Delay	LOS			Delay	LOS	Delay	LOS		
1	Key Pointe Drive at Amargosa Road	U	23.5	C	57.1	**F**	33.6	**Yes**	25.0	C	>180	**F**	--	**Yes**
2	US-395 at Phelan Road/Main Street	S	122.2	**F**	127.5	**F**	5.3	**Yes**	275.2	**F**	287.3	**F**	12.1	**Yes**
3	Mesa Linda Street at Main Street	S	13.3	B	13.3	B	0.0	No	14.0	B	14.1	B	0.1	No
4	Cataba Road at Main Street	S	20.0	B	19.8	B	-0.2	No	26.8	C	26.8	C	0.0	No
5	Key Pointe Drive at Main Street	S	17.0	B	27.3	C	10.3	No	26.7	C	85.7	**F**	59.0	**Yes**
6	I-15 SB Ramps at Main Street	S	12.4	B	13.1	B	0.7	No	13.3	B	15.1	B	1.8	No
7	I-15 NB Ramps at Main Street	S	9.5	A	9.7	A	0.2	No	17.9	B	19.9	B	2.0	No
8	Mariposa Road at Main Street	S	25.4	C	25.6	C	0.2	No	32.4	C	34.2	C	1.8	No
9	Mountain Vista Avenue at Main Street	S	14.1	B	14.2	B	0.1	No	16.7	B	17.0	B	0.3	No
10	Escondido Avenue at Main Street	S	29.8	C	30.7	C	0.9	No	46.7	D	52.5	D	5.8	No
11	Topaz Avenue at Main Street	S	31.9	C	34.7	C	2.8	No	20.9	C	24.2	C	3.3	No
D1	Key Pointe Drive at South Fuel Entrance Driveway	U	--	--	8.3	A	--	--	--	--	10.1	B	--	--
D2	Amargosa Road at West Retail Driveway/West Fuel Driveway	S	--	--	11.6	B	--	--	--	--	20.6	C	--	--
D3	Amargosa Road at East Retail Driveway/East Fuel Exit Driveway	U	--	--	9.7	A	--	--	--	--	10.5	B	--	--

Notes:
- **Bold** values indicate intersections operating at an unacceptable Level of Service
- Delay values for signalized intersections represent the average control delay for the entire intersection, measured in seconds per vehicle.
- Delay values for unsignalized intersections represent the average vehicle delay on the worst (highest delay) intersection approach.

TRAFFIC SIGNAL WARRANT ANALYSIS

A traffic signal warrant analysis was completed for the intersections of Key Pointe Drive at Amargosa Road (Intersection #1), Amargosa Road at West Retail Driveway/West Fuel Driveway (Intersection #D2), and Amargosa Road at East Retail Driveway/East Fuel Exit Driveway (Intersection #D3), based on the methodologies noted in Section 4C of the *California Manual on Uniform Traffic Control Devices* (CA MUTCD). It should be noted that for the three volume-based warrants, *Warrant 1 – Eight-Hour Volume*, *Warrant 2 – Four-Hour Volume*, and *Warrant 3 – Peak Hour,* traffic volumes were compared with criteria in the CA MUTCD. In order to coincide with potential hours of operation of the proposed project, only traffic volumes between 6:00 AM and 10:00 PM were evaluated for these signal warrants. At Intersection #1, warrants will be conducted for both existing conditions (without project volumes) and Opening Year 2026 Cumulative Plus Project conditions. At Intersections #D2 and #D3, warrants will be conducted for Opening Year 2026 Cumulative Plus Project conditions only.

Trip Generation

Using the trip generation estimates described previously in this report, daily trips were divided into hourly trips, using morning and evening peak hour trip estimates in conjunction with hourly volume distribution percentages published in the ITE Trip Generation Manual. The hourly distribution percentages encompass all 24 hours of the day, and separately identify entering and exiting volumes. Hourly distribution percentage tables are included in ***Appendix G.*** The hourly distributions were modified to reflect expected store operating hours.

For Automated Car Wash (LU 948) uses, hourly distribution data is not published. For this land use, a complete land use with similar characteristics (LU 944, Gasoline/Service Station) was selected to ensure a representative distribution.

Trip Distribution

The following trip distribution assumptions at the proposed project driveways were used, consistent with the trip distribution assumptions used in the traffic analysis described previously in this report:

Key Pointe Drive at South Fuel Entrance Driveway (Intersection #D1)

- 80% of trips are assumed to enter for the fuel station and car wash

Amargosa Road at West Retail Driveway/West Fuel Driveway (Intersection #D2)

- 20% of trips are assumed to enter for the fuel station and car wash
- 95% of trips are assumed to exit the fuel station and car wash
- 70% of trips are assumed to enter for the big box retail store
- 80% of trips are assumed to exit the big box retail store

Amargosa Road at East Retail Driveway/East Fuel Exit Driveway (Intersection #D3)

- 5% of trips are assumed to exit the fuel station and car wash
- 30% of trips are assumed to enter for the big box retail store
- 20% of trips are assumed to exit the big box retail store

Existing roadway volume counts were collected at three (3) locations: along Amargosa Road, just west of Key Pointe Drive; along Amargosa Road, just east of Key Pointe Drive; and along Key Pointe Drive, just south of Amargosa Road. The counts were collected for 24 consecutive hours on a typical weekday in September 2024, while school was in session. The existing hourly volumes by approach for Amargosa Road and Key Pointe Drive are shown in **Table 8**.

This analysis will only evaluate volumes between 6:00am and 10:00pm to coincide with anticipated hours of operation of the project. Morning and evening peak period turning movement counts were collected on the same date at this intersection for a signal warrant criterion discussed later in this report. A copy of the raw traffic volumes is included in ***Appendix C***.

The existing hourly roadway volumes shown in Table 8 were grown by 2% annually to generate baseline non-project volumes in the project's opening year, 2026. Cumulative Projects volumes were added, consistent with the Cumulative Projects assumptions used in the traffic analysis described previously in this report. For High-Cube Fulfillment Center Warehouse (LU 155) uses, hourly distribution data is not published. For this land use, a complete land use with similar characteristics (LU 154, High-Cube Transload and Short-Term Storage Warehouse) was selected to ensure a representative distribution for Cumulative Projects.

The hourly project volumes (generated and distributed by methodology outlined earlier in this report) were added to the grown volume counts and Cumulative Projects volumes to determine Opening Year 2026 Cumulative Plus Project volumes at Intersection #1, as shown in **Table 9**.

Eastbound and westbound roadway volumes along Amargosa Road just east of Key Pointe Drive were used as baseline non-project traffic at Intersections #D2 and #D3. The volumes were grown by 2% annually to opening year 2026, and Cumulative Projects volumes were added, consistent with the Cumulative Projects assumptions used in the traffic analysis described previously in this report. The hourly project volumes were added to the grown volume counts and Cumulative Projects volumes to determine Opening Year 2026 Cumulative Plus Project volumes. Volumes at Intersection #D2 are shown on **Table 10**, and volumes at Intersection #D3 are shown on **Table 11**.

Table 8 – Existing Volumes at Key Pointe Drive at Amargosa Road (Intersection #1)

Time Period	EB Approach	WB Approach	NB Approach	SB Approach	Total
6:00 AM - 7:00 AM	44	126	71	-	241
7:00 AM - 8:00 AM	56	176	145	-	377
8:00 AM - 9:00 AM	92	190	126	-	408
9:00 AM - 10:00 AM	90	240	163	-	493
10:00 AM - 11:00 AM	126	292	197	-	615
11:00 AM - 12:00 PM	125	335	234	-	694
12:00 PM - 1:00 PM	133	409	268	-	810
1:00 PM - 2:00 PM	134	425	239	-	798
2:00 PM - 3:00 PM	170	424	296	-	890
3:00 PM - 4:00 PM	178	374	259	-	811
4:00 PM - 5:00 PM	152	424	275	-	851
5:00 PM - 6:00 PM	125	389	293	-	807
6:00 PM - 7:00 PM	106	310	238	-	654
7:00 PM - 8:00 PM	95	300	190	-	585
8:00 PM - 9:00 PM	74	281	170	-	525
9:00 PM - 10:00 PM	48	219	160	-	427
Total	1,748	4,914	3,324	-	9,986

Table 9 – Opening Year 2026 Cumulative Plus Project Volumes at Key Pointe Drive at Amargosa Road (Intersection #1)

Time Period	EB Approach	WB Approach	NB Approach	SB Approach	Total
6:00 AM - 7:00 AM	46	186	70	-	302
7:00 AM - 8:00 AM	58	291	153	-	502
8:00 AM - 9:00 AM	96	327	152	-	575
9:00 AM - 10:00 AM	94	395	234	-	723
10:00 AM - 11:00 AM	131	484	316	-	931
11:00 AM - 12:00 PM	130	598	370	-	1,098
12:00 PM - 1:00 PM	138	718	426	-	1,282
1:00 PM - 2:00 PM	139	726	380	-	1,245
2:00 PM - 3:00 PM	177	720	419	-	1,316
3:00 PM - 4:00 PM	185	678	378	-	1,241
4:00 PM - 5:00 PM	158	743	405	-	1,306
5:00 PM - 6:00 PM	130	714	428	-	1,272
6:00 PM - 7:00 PM	110	612	346	-	1,068
7:00 PM - 8:00 PM	99	558	286	-	943
8:00 PM - 9:00 PM	77	518	224	-	819
9:00 PM - 10:00 PM	50	391	176	-	617
Total	1,818	8,659	1,818	8,659	4,763

Table 10 – Opening Year 2026 Cumulative Plus Project Volumes at Amargosa Road at West Retail Driveway/West Fuel Driveway (Intersection #D2)

Time Period	EB Approach	WB Approach	NB Approach	SB Approach	Total
6:00 AM - 7:00 AM	97	137	78	12	324
7:00 AM - 8:00 AM	216	197	146	30	589
8:00 AM - 9:00 AM	229	214	161	44	648
9:00 AM - 10:00 AM	327	272	141	76	816
10:00 AM - 11:00 AM	436	335	130	127	1,028
11:00 AM - 12:00 PM	503	392	175	176	1,246
12:00 PM - 1:00 PM	529	476	194	213	1,412
1:00 PM - 2:00 PM	510	493	174	217	1,394
2:00 PM - 3:00 PM	555	490	180	208	1,433
3:00 PM - 4:00 PM	549	438	204	204	1,395
4:00 PM - 5:00 PM	541	491	217	210	1,459
5:00 PM - 6:00 PM	537	456	225	214	1,432
6:00 PM - 7:00 PM	432	370	225	188	1,215
7:00 PM - 8:00 PM	369	352	185	168	1,074
8:00 PM - 9:00 PM	282	329	170	153	934
9:00 PM - 10:00 PM	210	255	120	111	696
Total	5,768	6,494	6,322	5,697	2,725

Table 11 – Opening Year 2026 Cumulative Plus Project Volumes at Amargosa Road at East Retail Driveway/East Fuel Exit Driveway (Intersection #D3)

Time Period	EB Approach	WB Approach	NB Approach	SB Approach	Total
6:00 AM - 7:00 AM	106	137	2	3	248
7:00 AM - 8:00 AM	225	195	4	10	434
8:00 AM - 9:00 AM	226	213	4	14	457
9:00 AM - 10:00 AM	289	269	4	24	586
10:00 AM - 11:00 AM	360	327	3	41	731
11:00 AM - 12:00 PM	418	378	4	56	856
12:00 PM - 1:00 PM	431	458	5	68	962
1:00 PM - 2:00 PM	422	472	4	69	967
2:00 PM - 3:00 PM	483	469	4	66	1,022
3:00 PM - 4:00 PM	481	418	5	65	969
4:00 PM - 5:00 PM	466	471	6	67	1,010
5:00 PM - 6:00 PM	459	436	6	68	969
6:00 PM - 7:00 PM	374	352	6	60	792
7:00 PM - 8:00 PM	315	336	5	53	709
8:00 PM - 9:00 PM	258	310	4	49	621
9:00 PM - 10:00 PM	212	238	3	35	488
Total	6,116	5,479	5,525	5,479	69

Warrant Descriptions

Warrant 1 – Eight-Hour Volume

Warrant 1 considers an eight-hour vehicular volume analysis. This warrant typically applies at locations where a large volume of intersection traffic is the principal reason to consider installing a traffic control signal or when traffic volumes on a major street are so heavy that traffic on the minor street suffers excessive delay or conflict in entering or crossing the major street.

Warrant 2 – Four-Hour Volume

Warrant 2 considers four-hour vehicular volume analysis. This warrant applies where the volume of intersecting traffic is the principal reason to consider installing a traffic signal.

Warrant 3 - Peak Hour

Warrant 3 considers peak hour conditions. This warrant applies where the traffic conditions are such that for a minimum of one hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street.

Warrant 4 – Pedestrian Volume

Warrant 4 considers pedestrian volumes at the intersection. This warrant applies when the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street. No pedestrian data was collected for this memorandum, therefore Warrant 4 is not applicable for this analysis.

Warrant 5 – School Crossing

Warrant 5 considers proximity of the intersection to a school and school crossings. This warrant applies when there are schoolchildren (elementary through high school) crossing the major street, in this case Amargosa Road. There are no schools located within 1 mile of any of the three project intersections. Therefore, Warrant 5 is not applicable for this study.

Warrant 6 – Coordinated Signal System

Warrant 6 considers a coordinated signal system. This warrant applies when progressive movement in a coordinated signal system necessitates installing a traffic control signal at intersection where they may not otherwise be needed in order to maintain platooning of vehicles. No traffic signals currently exist on Amargosa Road in the vicinity of the project. Therefore, Warrant 6 is not applicable for this study.

Warrant 7 – Crash Experience

Warrant 7 considers the recent crash experience at the intersection. This warrant applies where the severity and frequency of the crashes are the principal reasons to consider installing a traffic control signal at the location. Crash data was not evaluated as part of this memorandum; therefore, Warrant 7 is not applicable for this analysis.

Warrant 8 – Roadway Network

Warrant 8 considers the surrounding roadway network. This warrant applies when installation of a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on the roadway network. The intersection must meet one or both criteria to satisfy Warrant 8.

For Criteria A, the study intersection must have a least 1,000 vehicles per hour during the peak hour of a typical weekday and meet one or more of Warrant 1, 2, and 3 during an average weekday. The study reviewed the results for Warrants 1, 2, and 3.

For Criteria B, the study intersection must have a least 1,000 vehicles per hour for any 5-hours of a non-normal business day (Saturday or Sunday). Traffic data was not collected over the weekend period and therefore, Criteria B was not evaluated as part of this study.

Warrant 9 – Intersection near a grade crossing

Warrant 9 considers if the intersection of question is in proximity to an at-grade railroad crossing. This warrant applies when none of the other eight signal warrants are met, but the proximity to the intersection of a grade crossing is reason to consider installing a traffic control signal. There are no at-grade railroad crossings in the vicinity of the study intersections, therefore this warrant is not applicable for this analysis.

Warrant Results for Key Pointe Drive at Amargosa Road (Intersection #1) – Existing Conditions

Results of the applicable traffic signal warrants for Intersection #1 under existing conditions are summarized on **Table 12** and described below. Analysis sheets are included in ***Appendix H*.**

Table 12 – Summary of Traffic Signal Warrants for Key Pointe Drive at Amargosa Road (Intersection #1) – Existing Conditions

Warrant	Result
Warrant 1 – Eight-Hour Volume	Not Satisfied
Condition A	Not Satisfied
Condition B	Not Satisfied
Combination A & B	Not Satisfied
Warrant 2 – Four-Hour Volume	Satisfied
Warrant 3 – Peak Hour	Not Satisfied
Warrant 8 – Roadway Network	Not Satisfied
Criteria A	Not Satisfied
Criteria B	N/A

As shown in Table 12, Intersection #1 satisfied Warrant 2 under existing conditions. Details for each warrant are described below.

Warrant 1 – Eight-Hour Volume

Volumes in **Table 12** were compared with volume thresholds listed in Table 4C-1 of the CA MUTCD. Since the speed limit on the major road, Amargosa Road, exceeds 40 mph, the 70 percent volume column was used. Intersection volumes do not exceed the volume threshold and do not satisfy Warrant 1.

Warrant 2 – Four-Hour Volume

Volumes in **Table 12** were compared using Figure 4C-2 of the CA MUTCD, as the speed limit on the major road exceeds 40 mph. Intersection volumes exceeded the volume threshold and satisfy Warrant 2.

Warrant 3 - Peak Hour

Volumes in **Table 12** were compared using Figure 4C-4 of the CA MUTCD, as the speed limit on the major road exceeds 40 mph Intersection volumes do not exceed the volume threshold and do not satisfy Warrant 3.

Warrant 8 – Roadway Network

Intersection volumes do not exceed the 1,000-vehicle threshold. Therefore, Warrant 8 is not satisfied.

Warrant Results for Key Pointe Drive at Amargosa Road (Intersection #1) – Opening Year 2026 Cumulative Plus Project Conditions

Results of the applicable traffic signal warrants for Intersection #1 under Opening Year 2026 Cumulative Plus Project conditions are summarized on **Table 13** and described below. Analysis sheets are included in ***Appendix H*.**

Table 13 – Summary of Traffic Signal Warrants for Key Pointe Drive at Amargosa Road (#1) – Opening Year 2026 Cumulative Plus Project Conditions

Warrant	Result
Warrant 1 – Eight-Hour Volume	Satisfied
Condition A	Satisfied
Condition B	Satisfied
Combination A & B	Satisfied
Warrant 2 – Four-Hour Volume	Satisfied
Warrant 3 – Peak Hour	Satisfied
Warrant 8 – Roadway Network	Satisfied
Criteria A	Satisfied
Criteria B	N/A

As shown in Table 13, Intersection #1 with the projected volumes from the project satisfies all applicable warrants under Opening Year 2026 Cumulative Plus Project conditions. Details for each warrant are described below.

Warrant 1 – Eight-Hour Volume

Volumes in **Table 13** were compared with volume thresholds listed in Table 4C-1 of the CA MUTCD. Since the speed limit on the major road, Amargosa Road, exceeds 40 mph, the 70 percent volume column was used. Intersection volumes exceed the volume threshold and satisfy Warrant 1.

Warrant 2 – Four-Hour Volume

Volumes in **Table 13** were compared using Figure 4C-2 of the CA MUTCD, as the speed limit on the major road exceeds 40 mph. Intersection volumes exceeded the volume threshold and satisfied Warrant 2.

Warrant 3 - Peak Hour

Volumes in **Table 13** were compared using Figure 4C-4 of the CA MUTCD, as the speed limit on the major road exceeds 40 mph Intersection volumes exceed the volume threshold and satisfy Warrant 3.

Warrant 8 – Roadway Network

Intersection volumes exceed the 1,000-vehicle threshold and also satisfy Warrants 1, 2, and 3. Therefore, Warrant 8 is satisfied.

Warrant Results for Amargosa Road at West Retail Driveway/West Fuel Driveway (Intersection #D2) – Opening Year 2026 Cumulative Plus Project Conditions

Results of the applicable traffic signal warrants for Intersection #D2 under Opening Year 2026 Cumulative Plus Project conditions are summarized on **Table 14** and described below. Analysis sheets are included in ***Appendix H*****.**

Table 14 – Summary of Traffic Signal Warrants for Amargosa Road at West Retail Driveway/West Fuel Driveway (Intersection #D2) – Opening Year 2026 Cumulative Plus Project Conditions

Warrant	Result
Warrant 1 – Eight-Hour Volume	Satisfied
Condition A	Satisfied
Condition B	Satisfied
Combination A & B	Satisfied
Warrant 2 – Four-Hour Volume	Satisfied
Warrant 3 – Peak Hour	Satisfied
Warrant 8 – Roadway Network	Satisfied
Criteria A	Satisfied
Criteria B	N/A

As shown in **Table 14**, Intersection #D2 with the projected volumes from the project satisfies all applicable warrants under Opening Year 2026 Cumulative Plus Project conditions. Details for each warrant are described below.

Warrant 1 – Eight-Hour Volume

Volumes in **Table 14** were compared with volume thresholds listed in Table 4C-1 of the CA MUTCD. Since the speed limit on the major road, Amargosa Road, exceeds 40 mph, the 70 percent volume column was used. Intersection volumes exceed the volume threshold and satisfy Warrant 1.

Warrant 2 – Four-Hour Volume

Volumes in **Table 14** were compared using Figure 4C-2 of the CA MUTCD, as the speed limit on the major road exceeds 40 mph. Intersection volumes exceeded the volume threshold and satisfied Warrant 2.

Warrant 3 - Peak Hour

Volumes in **Table 14** were compared using Figure 4C-4 of the CA MUTCD, as the speed limit on the major road exceeds 40 mph Intersection volumes exceed the volume threshold and satisfy Warrant 3.

Warrant 8 – Roadway Network

Intersection volumes exceed the 1,000-vehicle threshold and also satisfy Warrants 1, 2, and 3. Therefore, Warrant 8 is satisfied.

Warrant Results for Amargosa Road at East Retail Driveway/East Fuel Exit Driveway (Intersection #D3) – Opening Year 2026 Cumulative Plus Project Conditions

Results of the applicable traffic signal warrants for Intersection #D3 under Opening Year 2026 Cumulative Plus Project conditions are summarized on **Table 15** and described below. Analysis sheets are included in ***Appendix H*.**

Table 15 – Summary of Traffic Signal Warrants for Amargosa Road at East Retail Driveway/East Fuel Exit Driveway (Intersection #D3) – Opening Year 2026 Cumulative Plus Project Conditions

Warrant	Result
Warrant 1 – Eight-Hour Volume	Satisfied
Condition A	Not Satisfied
Condition B	Satisfied
Combination A & B	Not Satisfied
Warrant 2 – Four-Hour Volume	Satisfied
Warrant 3 – Peak Hour	Not Satisfied
Warrant 8 – Roadway Network	Satisfied
Criteria A	Satisfied
Criteria B	N/A

As shown in **Table 15**, Intersection #D3 with the projected volumes from the project satisfies all applicable warrants under Opening Year 2026 Cumulative Plus Project conditions. Details for each warrant are described below.

Warrant 1 – Eight-Hour Volume

Volumes in **Table 15** were compared with volume thresholds listed in Table 4C-1 of the CA MUTCD. Since the speed limit on the major road, Amargosa Road, exceeds 40 mph, the 70 percent volume column was used. Intersection volumes exceed the volume threshold and satisfy Warrant 1.

Warrant 2 – Four-Hour Volume

Volumes in **Table 15** were compared using Figure 4C-2 of the CA MUTCD, as the speed limit on the major road exceeds 40 mph. Intersection volumes exceeded the volume threshold and satisfied Warrant 2.

Warrant 3 - Peak Hour

Volumes in **Table 15** were compared using Figure 4C-4 of the CA MUTCD, as the speed limit on the major road exceeds 40 mph Intersection volumes do not exceed the volume threshold and do not satisfy Warrant 3.

Warrant 8 – Roadway Network

Intersection volumes exceed the 1,000-vehicle threshold and also satisfy Warrants 1 and 2. Therefore, Warrant 8 is satisfied.

Findings and Conclusions

A traffic signal warrant analysis was completed for the intersection of Key Pointe Drive at Amargosa Road (Intersection #1) for existing conditions based on the methodologies noted in Section 4C of the *California Manual on Uniform Traffic Control Devices* (CA MUTCD). Based on the existing volumes analyzed, the intersection satisfied Warrant 2 and therefore a signal is warranted for installation. Additionally, it should be noted that the intersection met 7 of the 8 required hours for Warrant 1A with 2 of the non-qualifying hours being short by less than 5 vehicles each.

Traffic signal warrant analyses were also completed for intersections of Key Pointe Drive at Amargosa Road (Intersection #1), Amargosa Road at West Retail Driveway/West Fuel Driveway (Intersection #D2), and Amargosa Road at East Retail Driveway/East Fuel Exit Driveway (Intersection #D3), for the project's opening year, 2026. Daily trips were divided into hourly trips, using morning and evening peak hour trip estimates in conjunction with hourly volume distribution percentages published in the ITE Trip Generation Manual. The hourly project trips were assigned to the intersections by applying the determined trip distribution percentages. The calculated volumes were used as the basis of the signal warrant analysis, along with 24-hour roadway volumes collected along Amargosa Road and Key Pointe Drive in the project vicinity (with growth and Cumulative Projects volumes applied for Opening Year 2026 Cumulative conditions).

Results of the analysis showed that for Opening Year 2026 Cumulative Plus Project conditions, Warrants 1, 2, 3, and 8 were satisfied for Intersections #1 and #D2, and Warrants 1, 2, and 8 were satisfied for Intersection #D3. As the intersection of Key Pointe Drive at Amargosa Road (Intersection #1) already meets Warrant 2 under existing conditions, it is recommended that a traffic signal be considered for installation at this location. For the intersections of Amargosa Road at West Retail Driveway/West Fuel Driveway (Intersection #D2) and Amargosa Road at East Retail Driveway/East Fuel Exit Driveway (Intersection #D3), it is recommended that a traffic signal be considered for installation at only one of these two intersections due to the fact they provide access to the same site and are close in proximity.

It should be noted that the traffic analysis assumed a traffic signal would be installed at Intersection #D2 for plus project scenarios. Based on the proposed lane geometry, lane configuration, and site access for Intersections #D2 and #D3, it is recommended that a traffic signal be considered for installation at Intersection #D2.

SIGNAL PROGRESSION ANALYSIS

Per request from City staff, a signal progression analysis was conducted along Amargosa Road for the intersections of Key Pointe Drive at Amargosa Road (Intersection #1) and Amargosa Road at West Retail Driveway/West Fuel Driveway (Intersection #D2). It is assumed that both intersections would be signalized and coordinated in this analysis. The signal progression analysis encompasses evaluation of queuing and delay (LOS) at the identified intersections to assess if any conflicts or operational deficiencies are present and should be mitigated. Specifically, this signal progression analysis will evaluate the westbound left-turn queues at Intersection #1 and the eastbound left-turn queues at Intersection #D2, in addition to LOS at these intersections after the application of mitigation and coordinated signal timing.

Results of the left-turning queuing analysis and LOS results with recommended improvements are summarized in **Tables 16** and **17**, respectively. It should be noted that Table 17 outlines mitigation recommendations for all applicable intersections, which were utilized in the signal progression analysis. Based on the results of the signal progression analysis, the following improvements are recommended for both Opening Year 2026 Cumulative Plus Project and Horizon Year 2045 Plus Project conditions, in addition to those specified on Table 17:

- Key Pointe Drive at Amargosa Road (Intersection #1)
    - Modify WB approach to 1 left-turn pocket with 250 feet of storage capacity, 1 left-turn lane with at least 250 feet of storage capacity, and 1 through lane

- Amargosa Road at West Retail Driveway/West Fuel Driveway (Intersection #D2)
    - Extend the proposed EBL turn pocket to be 200 feet

With these recommended improvements, Intersections #1 and #D2 would provide adequate storage capacity and operate at an acceptable LOS in both the AM and PM peak hours.

The left-turn pocket capacities and LOS results with recommended improvements are provided in the intersection analysis worksheets in ***Appendix D*** of this report.

STORAGE CAPACITY AT LEFT-TURN POCKETS

Queue lengths at the left-turn pockets were assessed at the following locations under Opening Year 2026 Cumulative Plus Project and Horizon Year 2045 Plus Project conditions:

- Key Pointe Drive at Amargosa Road (Intersection #1)
    - Westbound Left Turn

- Amargosa Road at West Retail Driveway/West Fuel Driveway (Intersection #D2)
    - Northbound Left Turn
    - Eastbound Left Turn

- Amargosa Road at East Retail Driveway/East Fuel Exit Driveway (Intersection #D3)
    - Eastbound Left Turn

Results of the left-turning queuing analysis are summarized in **Table 16**. Based on the results of the queuing analysis, it is recommended that the following proposed left-turn pockets are extended at the intersections below:

- Key Pointe Drive at Amargosa Road: Extend the proposed WBL turn pocket to be 250 feet. Convert one WBT lane to be a WBL turn lane with at least 250 feet of storage capacity.

- Amargosa Road at West Retail Driveway/West Fuel Driveway: Extend the proposed EBL turn pocket to be 200 feet.

The left-turn pocket capacities are provided in the intersection analysis worksheets in ***Appendix D*** of this report.

TABLE 16
SUMMARY OF LEFT-TURN POCKET STORAGE CAPACITY

Intersection	Left-Turn Movement	Storage Capacity (ft/ln)	Peak Hour	Peak Hour Queue Length (ft/ln)			
				Opening Year 2026 Cumulative Plus Project		Horizon Year 2045 Plus Project	
				50th Percentile	95th Percentile	50th Percentile	95th Percentile
Key Pointe Dr at Amargosa Rd (#1)	WBL	250	AM	64	116	98	177
			PM	146	244	138	235
Amargosa Rd at West Retail Dwy/West Fuel Dwy (#D2)	NBL	370	AM	65	118	64	115
			PM	87	157	87	157
	EBL	200	AM	11	21	13	24
			PM	103	186	102	183
Amargosa Rd at East Retail Dwy/East Fuel Exit Dwy (#D3)	EBL	140	AM	N/A[1]	1	N/A[1]	1
			PM	N/A[1]	5	N/A[1]	5

Notes:
[1] 50th percentile queue not reported for unsignalized intersections

RECOMMENDED IMPROVEMENTS

Based on the City of Hesperia LOS standards and criteria noted earlier in the report, under Opening Year 2026 Cumulative Plus Project and Horizon Year 2045 Plus Project conditions, there would be a project-related effect at the following intersections:

- #1 – Key Pointe Drive at Amargosa Road
- #2 – US-395 at Phelan Road/Main Street
- #5 – Key Pointe Drive at Main Street

Implementation of the following improvements under each condition are recommended to address the project's effect at the study intersections:

Opening Year 2026 Cumulative Plus Project Conditions:

#1 – Key Pointe Drive at Amargosa Road

- Install traffic signal
- Modify WB approach to 1 left-turn pocket (min. 250'), 1 left-turn lane, and 1 through lane
- Add WB left-turn protected phasing
- Add NB right-turn overlap phasing

#2 – US-395 at Phelan Road/Main Street

- Add one NB right-turn lane
- Add one SB right-turn lane
- Convert one existing SB through lane to be a 2nd SB left-turn lane

#5 – Key Pointe Drive at Main Street

- Add 2nd SB left-turn lane
- Add NB right-turn overlap phasing
- Modify NB and SB phasing from permissive to left-turn protected phasing

Horizon Year 2045 Plus Project Conditions:

#1 – Key Pointe Drive at Amargosa Road

- The same recommended improvements for Opening Year 2026 Cumulative Plus Project Conditions are recommended for this condition.

#2 – US-395 at Phelan Road/Main Street

- Add 3rd NB through lane
- Add 3rd SB through lane
- Add 2nd SB left-turn lane
- Add 3rd EB through lane
- Modify WB approach to 1 left-turn lane, 3 through lanes, and 1 right-turn lane
- Add WB right-turn overlap phasing

#5 – Key Pointe Drive at Main Street

- The same recommended improvements for Opening Year 2026 Cumulative Plus Project Conditions are recommended for this condition.

A summary of the intersection operation before and after implementation of the recommended improvements for Opening Year 2026 Cumulative Plus Project and Horizon Year 2045 Plus Project conditions is provided on **Table 17**. Copies of intersection analysis worksheets with improvements are provided in ***Appendix D***. Recommended improvements may include a combination of fee payments to established programs, construction of specific improvements, or a combination of these approaches. It should be noted that per discussion with City and SBCTA staff, a US-395 widening project through SBCTA has been commissioned, which will encompass improvements to US-395 at Phelan Road/Main Street. Through discussion with City staff, the City will not be requiring any of the proposed improvements to be made by the Project to the intersection of US-395 at Phelan Road/Main Street (Intersection #2).

Per discussion with City staff, the project will pay in full for the recommended improvements for the intersection of Key Pointe Drive at Amargosa Road (Intersection #1).

TABLE 17
SUMMARY OF INTERSECTION OPERATION
RECOMMENDED IMPROVEMENTS

Int. #	Intersection	Improvements for Opening Year 2026 Cumulative Plus Project Conditions	Peak Hour	Traffic Control	Opening Year Cumulative 2026						Improvements for Horizon Year 2045 Plus Project Conditions	Horizon Year 2045					
					Without Project		With Project		With Improvements			Without Project		With Project		With Improvements	
					Delay	LOS	Delay	LOS	Delay	LOS		Delay	LOS	Delay	LOS	Delay	LOS
1	Key Pointe Drive at Amargosa Road	- Install traffic signal - Modify WB approach to 1 left-turn pocket, 1 left-turn lane, and 1 through lane - Add WB left-turn protected phasing - Add NB right-turn overlap phasing	AM	U	13.0	B	29.6	D	16.1	B	- Install traffic signal - Modify WB approach to 1 left-turn pocket, 1 left-turn lane, and 1 through lane - Add WB left-turn protected phasing - Add NB right-turn overlap phasing	23.5	C	57.1	**F**	17.8	B
			PM	U	24.0	C	>180	**F**	23.7	C		25.0	C	>180	**F**	46.9	D
2	US-395 at Phelan Road/Main Street	- Add one NB right-turn lane - Add one SB right-turn lane - Convert one existing SB through lane to be a 2nd SB left-turn lane	AM	S	32.0	C	32.6	C	48.2	D	- Add 3rd NB through lane - Add 3rd SB through lane - Add 2nd SB left-turn lane - Add 3rd EB through lane - Modify WB approach to 1 left-turn lane, 3 through lanes, and 1 right-turn lane - Add WB right-turn overlap phasing	122.2	**F**	127.5	**F**	36.6	D
			PM	S	67.4	**E**	75.4	**E**	49.3	D		275.2	**F**	287.3	**F**	52.7	D
5	Key Pointe Drive at Main Street	- Add 2nd SB left-turn lane - Add NB right-turn overlap phasing - Modify NB and SB phasing from permissive to left-turn protected phasing	AM	S	12.9	B	20.6	C	21.0	C	- Add 2nd SB left-turn lane - Add NB right-turn overlap phasing - Modify NB and SB phasing from permissive to left-turn protected phasing	17.0	B	27.3	C	23.5	C
			PM	S	24.5	C	78.7	**E**	48.9	D		26.7	C	85.7	**F**	48.0	D

Notes:
- **Bold** values indicate intersections operating at an unacceptable Level of Service
- Delay values for unsignalized intersections represent the average vehicle delay on the worst (highest delay) intersection approach.

SITE ACCESS AND CIRCULATION

Direct vehicular access provisions for the big box retail store portion of the project would consist of the following two driveways:

- One signalized full-access driveway located approximately 650 feet east of Key Pointe Drive along Amargosa Road
- One unsignalized full-access in, right turn-only out driveway located approximately 1,000 feet east of Key Pointe Drive along Amargosa Road

Direct vehicular access provisions for the fuel station and car wash portion of the project would consist of the following three driveways:

- One signalized full-access driveway located approximately 650 feet east of Key Pointe Drive along Amargosa Road, aligned with the signalized full-access driveway for the big box retail store
- One unsignalized right-turn exit-only driveway located approximately 1,000 feet east of Key Pointe Drive along Amargosa Road, aligned with the unsignalized full-access in, right turn-only out driveway for the big box retail store
- One unsignalized entrance-only driveway located approximately 400 feet south of Amargosa Road along Key Pointe Drive

DRIVE-THROUGH QUEUING

For the proposed fuel station portion of the project, a drive-through queuing analysis was conducted for the proposed fueling positions. The queuing analysis takes into consideration the potential effects to the on-site circulation as a result of excessive queuing.

To determine the queue for the proposed project, the queuing analysis assumes that the queue at the pumps follows a multi-channel queuing model with Poisson arrival and exponential service times (M/M/C model). This allows for an average queue length to be forecasted.

The following equation was used and is applicable to calculate M/M/C queues.

$$Average\ number\ of\ vehicles\ in\ the\ system\ (in\ service\ \&\ in\ queue)$$
$$Q = \frac{P_0 \rho^{N+1}}{N!\,N}\left[\frac{1}{(1-\rho/N)^2}\right]$$

Where P_0 is the probability of not having a queue, ρ is the utilization factor, and N is the number of service channels.

Daily transaction data was collected at an existing Sam's Fuel Center in Gardena, California. Based on the data collection, the weekday peak period of the fuel station occurred between 2PM to 6PM on a Friday, and the weekend peak period occurred between 10AM to 2PM on a Saturday.

To determine the hourly transaction rate per fueling position, the peak average number of transactions was divided by the number of fueling positions at the Gardena site. A summary of the weekday and weekend peak transaction data is provided on **Table 18**.

The weekday transaction rate from Sam's Fuel Gardena was chosen to represent the worst-case scenario. All transactions are expected to utilize the drive-through, as such the transaction rate was utilized as the arrival rate in this queuing analysis.

The service rate, μ, was calculated based on the assumption that a typical customer spends four and a half minutes at a fueling position. This fueling time can be used to calculate the service rate via the following equation.

$$w = \frac{\rho + Q}{\lambda} - \frac{1}{\mu}$$

Where w is the average waiting time in queue and being served.

TABLE 18
SUMMARY OF TRANSACTION DATA
SAM'S FUEL GARDENA

	Time	# Transactions
Friday	2:00-2:59pm	170
	3:00-3:59pm	172
	4:00-4:59pm	176
	5:00-5:59pm	176
	Peak Average	174
Friday Transaction Rate		10.84
	Time	**# Transactions**
Saturday	10:00-10:59am	181
	11:00-11:59am	170
	12:00-12:59pm	160
	1:00-1:59pm	144
	Peak Average	164
Saturday Transaction Rate		10.23

Notes:

Peak Average - Average number of transactions in the Friday or Saturday peak period

Friday Transaction Rate - Estimated number of Friday peak transaction per fueling position

Saturday Transaction Rate - Estimated number of Saturday peak transactions per fueling position

The results of the analysis are summarized in **Table 19**. Based on these calculations, the average queue that is anticipated at the drive-through is 4 vehicles per fueling position. This assessment takes into consideration a worst-case trip generation estimate of 11 transactions per fueling position on a typical weekday. The proposed drive-through aisles have approximately 245 feet of stacking distance per lane behind the vehicle at the fuel pump, as shown on **Figure 16**. Assuming that a stationary vehicle occupies 20-25 feet of length, the peak queue is anticipated to be accommodated by the available stacking distance. There is capacity for up to nine vehicles behind the vehicle being serviced.

Table 19 – Summary of Drive-Through Analysis – Single Fuel Pump Drive-Through

Weekday Peak Inbound Trips	11
Arrival Rate λ (veh/hr)	22
Service Rate μ (sec/veh)	270
Average # of Vehicles in System (vehicles in queue)	3.52
Queuing Space Provided	245'
Queuing Capacity (veh)	9

NOT TO SCALE

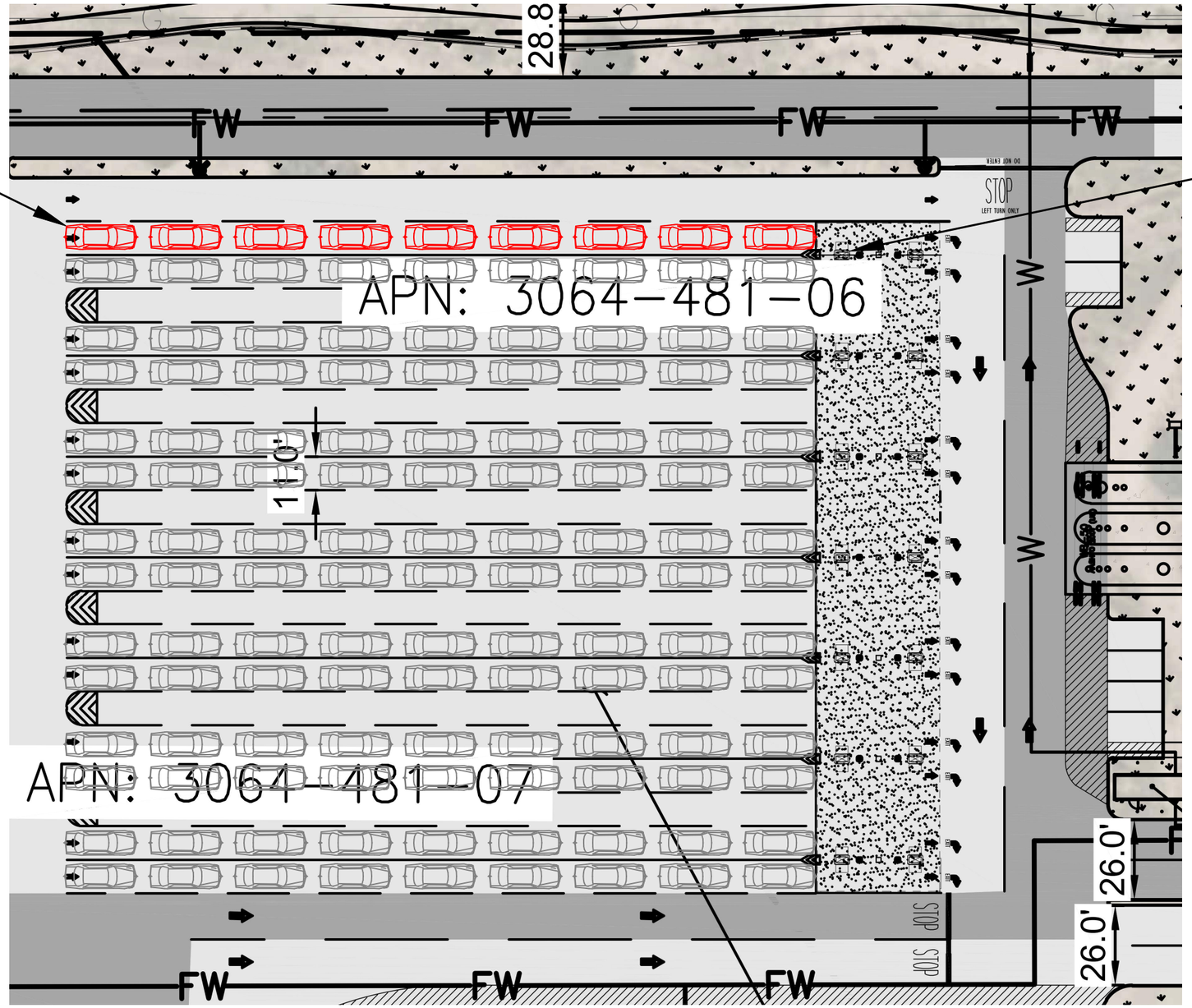


FIGURE 16
DRIVE-THROUGH QUEUING CAPACITY

VEHICLE MILES TRAVELED (VMT) ANALYSIS SUMMARY OF FINDINGS AND CONCLUSIONS

A VMT analysis was conducted for the proposed project and is provided as ***Appendix I***. Below is a summary of the findings and conclusions from the VMT analysis:

- Based on the VMT analysis, potential project VMT impacts were determined using the City's VMT Guidelines and the following findings are made:

    - The project generated VMT per service population does exceed the County threshold under the Existing Year and Cumulative Year conditions. Therefore, the project-generated VMT impact is considered to be a significant impact.

    - The "10 Mile" Boundary VMT per service population decreases under Plus Project conditions for the Existing Year and Cumulative Year. The County Boundary VMT per service population remains the same between No Project and Plus Project for the Existing Year but has a negligible increase under Plus Project conditions for the Cumulative Year. Therefore, the Project's effect on VMT impact is considered to be less-than-significant.

- Based on a review of TDM strategies, the following potential mitigation measure was evaluated for applicability to this Project and its potential to reduce project-generated VMT.

    - Provide Pedestrian Network Improvement (CAPCOA Handbook Strategy T-18): This mitigation measure requires the construction of off-site sidewalks to improve sidewalk coverage and pedestrian access to the surrounding area. The construction of such pedestrian facilities would provide residents with the opportunity to walk to their destination rather than drive, reducing the number of vehicle trips and overall Project-generated VMT. The Project is assumed to add new sidewalks along Amargosa Road. From the CAPCOA Guidelines, the recommended study area of 0.6 miles from the project perimeter was used to determine the length of existing sidewalk, which is approximately 0.5 miles. The Project will increase the existing study area sidewalk length from approximately 0.5 miles to 0.7 miles which could potentially reduce VMT by 2% according to the formula provided in the County Guidelines.

- The Project's VMT would exceed the City's significance threshold, and the Project would therefore have a significant VMT transportation impact. It has been determined that one feasible mitigation measure to reduce that significant impact is the improvements of the pedestrian network in accordance with CAPCOA Handbook Strategy T-18, which could reduce the Project's VMT impact by approximately 2%. However, with the implementation of these mitigation measure the Project' VMT impact remains over the threshold, so the Project's VMT impact would be significant and unavoidable.

TRAFFIC ANALYSIS SUMMARY OF FINDINGS AND CONCLUSIONS

- The project site is located just east of the intersection of Key Pointe Drive at Amargosa Road in the City of Hesperia.

- The project consists of the construction of an approximately 167,664 square-foot (SF) big box retail store north of Amargosa Road, and a fuel station with 28 fueling positions and a single-tunnel automated car wash south of Amargosa Road.

- Direct vehicular access provisions for the big box retail store portion of the project would consist of the following two driveways:

    - One signalized full-access driveway located approximately 650 feet east of Key Pointe Drive along Amargosa Road
    - One unsignalized full-access in, right turn-only out driveway located approximately 1,000 feet east of Key Pointe Drive along Amargosa Road

- Direct vehicular access provisions for the fuel station and car wash portion of the project would consist of the following three driveways:

    - One signalized full-access driveway located approximately 650 feet east of Key Pointe Drive along Amargosa Road, aligned with the signalized full-access driveway for the big box retail store
    - One unsignalized right-turn exit-only driveway located approximately 1,000 feet east of Key Pointe Drive along Amargosa Road, aligned with the unsignalized full-access in, right turn-only out driveway for the big box retail store
    - One unsignalized entrance-only driveway located approximately 400 feet south of Amargosa Road along Key Pointe Drive

- Under Existing Conditions, all study intersections currently operate at an acceptable LOS.

- Under Opening Year 2026 Cumulative conditions, all study intersections would operate at an acceptable LOS, except for the following intersection:

    - #2 – US-395 at Phelan Road/Main Street: PM – LOS E

- The project is estimated to generate approximately 7,251 net new trips on a daily basis, with 324 net new trips in the AM peak hour, and 651 net new trips in the PM peak hour.

- Under Opening Year 2026 Cumulative Plus Project conditions, all study intersections would operate at an acceptable LOS, except for the following intersections:

    - #1 – Key Pointe Drive at Amargosa Road: PM – LOS F
    - #2 – US-395 at Phelan Road/Main Street: PM – LOS E
    - #5 – Key Pointe Drive at Main Street: PM – LOS E

- Under Horizon Year 2045 conditions, all study intersections would operate at an acceptable LOS, except for the following intersection:

    - #2 – US-395 at Phelan Road/Main Street: AM & PM – LOS F

- Under Horizon Year 2045 Plus Project conditions, all study intersections would operate at an acceptable LOS, except for the following intersections:

    - #1 – Key Pointe Drive at Amargosa Road: AM & PM – LOS F
    - #2 – US-395 at Phelan Road/Main Street: AM & PM – LOS F
    - #5 – Key Pointe Drive at Main Street: PM – LOS F

- A traffic signal warrant analysis was completed for the intersection of Key Pointe Drive at Amargosa Road (Intersection #1) for existing conditions. Traffic signal warrant analyses were also completed for intersections of Key Pointe Drive at Amargosa Road (Intersection #1), Amargosa Road at West Retail Driveway/West Fuel Driveway (Intersection #D2), and Amargosa Road at East Retail Driveway/East Fuel Exit Driveway (Intersection #D3), for the project's opening year, 2026. Results of the analysis showed that for Opening Year 2026 Cumulative Plus Project conditions, Warrants 1, 2, 3, and 8 were satisfied for Intersections #1 and #D2, and Warrants 1, 2, and 8 were satisfied for Intersection #D3.

    - As the intersection of Key Pointe Drive at Amargosa Road (Intersection #1) already meets Warrant 2 under existing conditions, it is recommended that a traffic signal be considered for installation at this location.
    - For the intersections of Amargosa Road at West Retail Driveway/West Fuel Driveway (Intersection #D2) and Amargosa Road at East Retail Driveway/East Fuel Exit Driveway (Intersection #D3), it is recommended that a traffic signal be considered for installation at only one of these two intersections due to the fact they provide access to the same site and are close in proximity.
    - It should be noted that the traffic analysis assumed a traffic signal would be installed at Intersection #D2 for plus project scenarios. Based on the proposed lane geometry, lane configuration, and site access for Intersections #D2 and #D3, it is recommended that a traffic signal be considered for installation at Intersection #D2.

- Based on the signal progression analysis, recommended improvements were identified for Intersections #1 and #D2 to provide adequate storage capacity and to operate at an acceptable LOS in both the AM and PM peak hours.

- Queue lengths at the left-turn pockets at the proposed project driveways and Intersection #1 were assessed. Based on the results of the queuing analysis, it is recommended that the following proposed left-turn pockets are extended at the intersections below:

    - Key Pointe Drive at Amargosa Road: Extend the proposed WBL turn pocket to be 250 feet. Convert one WBT lane to be a WBL turn lane with at least 250 feet of storage capacity.
    - Amargosa Road at West Retail Driveway/West Fuel Driveway: Extend the proposed EBL turn pocket to be 200 feet.

- Recommended improvements under Opening Year 2026 Cumulative Plus Project and Horizon Year 2045 Plus Project conditions were provided to address the project's effect at the study intersections.

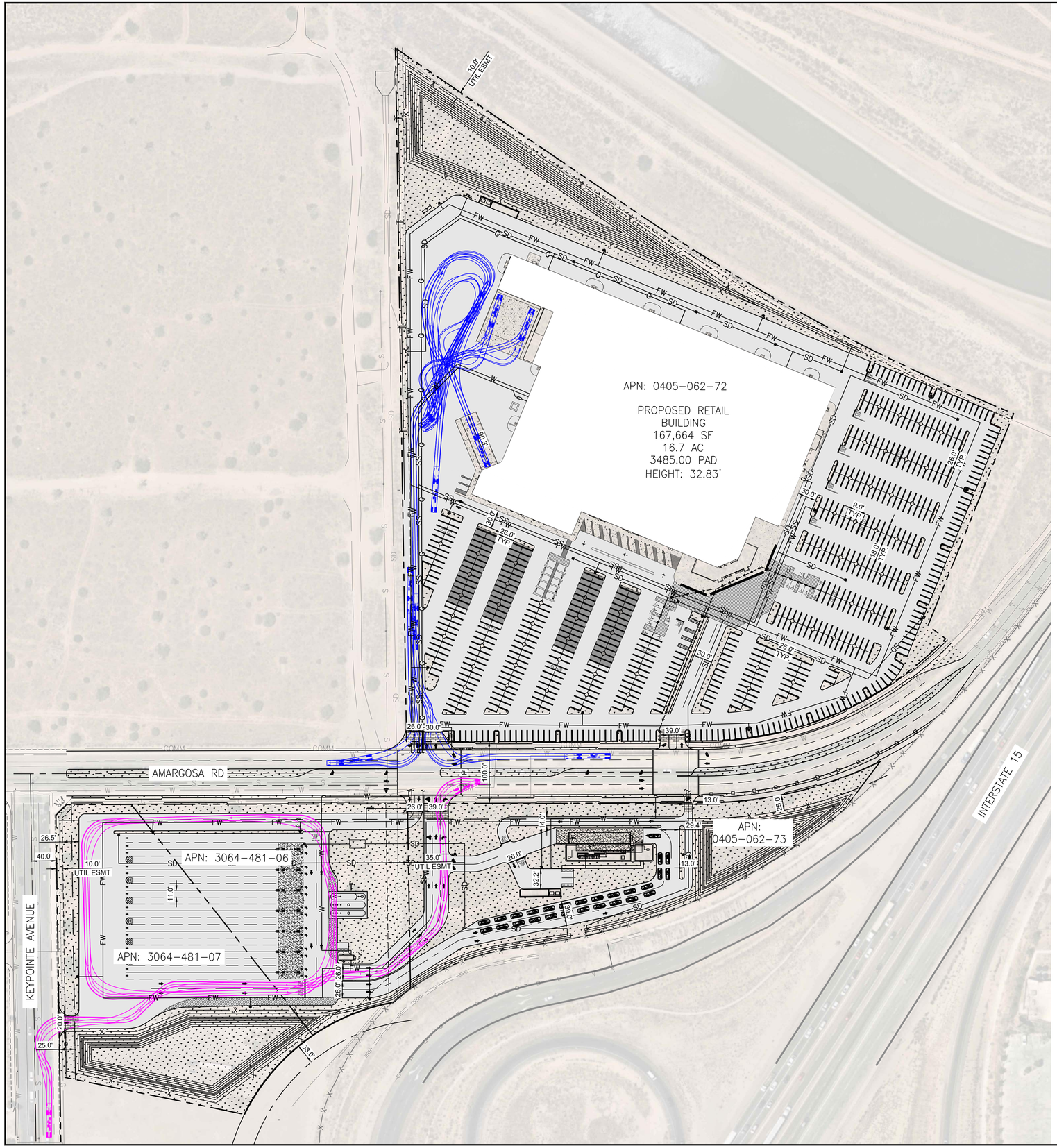
- Through discussion with City staff, the project will pay in full for the recommended improvements for the intersection of Key Pointe Drive at Amargosa Road (Intersection #1).

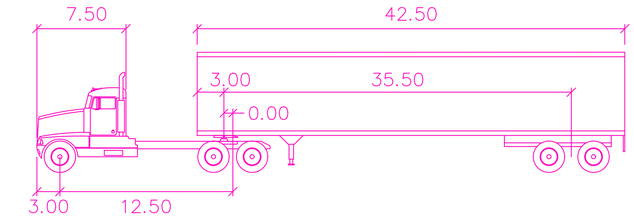
- Per discussion with City and SCBTA staff, the US-395 widening project commissioned through SBCTA will encompass improvements to US-395 at Phelan Road/Main Street. Through discussion with City staff, the City will not require any of the proposed improvements to be made by the Project to the intersection of US-395 at Phelan Road/Main Street (Intersection #2).

- For the fuel station portion of the project, the average queue on a typical weekday is anticipated to be 4 vehicles per fueling position. The proposed drive-through aisles have approximately 245 feet of stacking distance per lane behind the vehicle at the fuel pump. It is anticipated that under peak operating conditions, the queue would be accommodated by the available stacking distance.

APPENDIX **A**

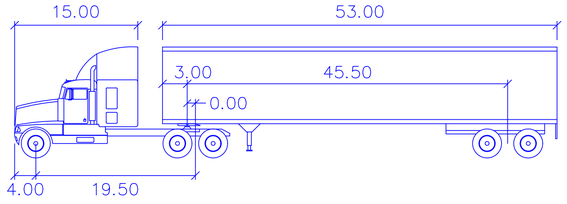
TR**U**C**K** T**U**RNING TEMP**L**ATES





WB-50

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		



WB-67

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		

NORTH

GRAPHIC SCALE IN FEET
0 40 80 160

SCALE: 1" = 80'
WHEN PRINTED AT FULL
SIZE 24"X36"

DATE

REVISIONS

No.

Kimley»Horn

© 2024 KIMLEY-HORN AND ASSOCIATES, INC.

1100 W TOWN AND COUNTRY ROAD, SUITE 700, ORANGE, CA
PHONE: 714-939-1030
WWW.KIMLEY-HORN.COM

NOT FOR CONSTRUCTION

SCALE AS SHOWN
DESIGNED BY MD
DRAWN BY MD
CHECKED BY RA

TRUCK TURN EXHIBIT

COMMERCIAL RETAIL DEVELOPMENT
NW I-15 AND N AMARGOSA RD
HESPERIA CA

DATE 1/10/2025

PROJECT NO.

SHEET NUMBER

APPENDIX **B**

APPROVED SCOPING AGREEMENT

Project Scoping Form

156-13.481 PC #4

11.5.24
ACCEPTED AS SUBMITTED.

This scoping form shall be submitted to the City of Hesperia to assist in identifying infrastructure improvements that may be required to support traffic from the proposed project.

Project Identification:

Case Number:	CUP24-00005
Related Cases:	
SP No.	
EIR No.	
GPA No.	
CZ No.	
Project Name:	Hesperia Big Box Retail, Fuel Station and Car Wash
Project Address:	Just east of the intersection of Amargosa Road at Key Pointe Drive
Project Opening Year:	2026
Project Description:	Develop an approximately 167,664 square-foot big box retail store north of Amargosa Road and a Fuel station with 28 Fueling positions and a single-tunnel Automated Car Wash south of Amargosa Road. The site is currently vacant land.

	Consultant:	**Developer:**
Name:	Kimley-Horn and Associates, Inc.	
Address:	1100 W Town and Country Rd.	
	Suite 700 Orange, CA 92868	
Telephone:	(951) 374-0710	
Fax/Email:	dallas.willey@kimley-horn.com	

Trip Generation Information:

Trip Generation Data Source: ITE Trip Generation Manual, 11th Edition

Current General Plan Land Use: Regional Commercial

Proposed General Plan Land Use: Regional Commercial

Current Zoning: Regional Commercial

Proposed Zoning: Regional Commercial

	Existing Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips	N/A	N/A	N/A	179	145	324
PM Trips	N/A	N/A	N/A	318	333	651

Trip Internalization: ☐ Yes ☑ No (_____% Trip Discount)

Pass-By Allowance: ☑ Yes ☐ No (_____% Trip Discount) See Attachment B

Potential Screening Checks

Is your project screened from specific analyses (see Page 11 of the guidelines related to LOS assessment and Pages 24-26).

Is the project screened from LOS assessment? ☐ Yes ☑ No

LOS screening justification (see Page 11 of the guidelines): _____

Is the project screened from VMT assessment? ☐ Yes ☑ No

VMT screening justification (see Pages 24-26 of the guidelines): _____

Level of Service Scoping

- Proposed Trip Distribution (Attach Graphic for Detailed Distribution): See Attachment C

North	South	East	West
45 %	35 %	10 %	10 %

- Attach list of Approved and Pending Projects that need to be considered (provided by the City Traffic Engineer and adjacent agencies)
- Attach list of study intersections/roadway segments
- Attach site plan
- Note other specific items to be addressed:
  - ✓ Site access
  - ✓ On-site circulation
  - Parking
  - Consistency with Plans supporting Bikes/Peds/Transit
  - Other _____
- Date of Traffic Counts May 15, 2024 ,and additional counts to be collected
- Attach proposed analysis scenarios (years plus proposed forecasting approach)
- Attach proposed phasing approach (if the project is phased)

VMT Scoping

For projects that are not screened, identify the following:

- Travel Demand Forecasting Model Used SBTAM
- Attach SBCTA Screening VMT Assessment output or describe why it is not appropriate for use
- Attach proposed Model Land Use Inputs and Assumed Conversion Factors (attach)

Kimley»Horn

October 31, 2024

Edgar Gonzalez
Senior Planner
City of Hesperia
9700 Seventh Avenue
Hesperia, CA 92345

RE: ***Traffic Scoping Letter Agreement for the Proposed Big Box Retail Project in the City of Hesperia***

Dear Mr. Gonzalez:

Kimley-Horn and Associates, Inc. is submitting this Traffic Scoping Letter Agreement to the City of Hesperia for the proposed big box retail project in the City of Hesperia. The proposed traffic scope for the project is presented below.

PROJECT DESCRIPTION

The project site is located just east of the intersection of Amargosa Road at Key Pointe Drive in the City of Hesperia. The site is currently vacant land. The applicant proposes to develop an approximately 167,664 square-foot (SF) big box retail store north of Amargosa Road, and a fuel station with 28 fueling positions and a single-tunnel automated car wash south of Amargosa Road. A copy of the project site plan is provided on **Attachment A**. It should be noted that the project driveway locations and intersection control shown are not final, and may be adjusted as a result of the Traffic Impact Analysis (TIA).

Vehicular access provisions for the big box retail store portion of the project would consist of two full-access driveways along Amargosa Road. Vehicular access provisions for the fuel station and car wash portion of the project would consist of two entrance-only driveways and two exit-only driveways. The exit-only driveways would align with the full-access driveways for the big box retail store. One entrance-only driveway is located just east of Key Pointe Drive on Amargosa Road and the second entrance-only driveway is located approximately 350 feet south of Amargosa Road along Key Pointe Drive. The entrance-only driveways are currently proposed to be unsignalized.

A signal warrant analysis will be conducted to evaluate the need for a traffic signal at the west full-access driveway of the big box retail store and west exit-only driveway of the fuel station and car wash along Amargosa Road, as well as the existing stop-controlled intersection of Amargosa Road and Key Pointe Drive. The signal warrant analysis will be submitted as a separate document, but results will be included in the TIA and will be used to inform intersection configuration in "Plus Project" scenarios.

JURISDICTIONAL REQUIREMENTS

The traffic analysis will follow City of Hesperia traffic study requirements and the San Bernardino County Transportation Authority (SBCTA) guidelines outlined in the *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (LOS) (*July 2020*).*

Intersections within California Department of Transportation (Caltrans) right-of-way will follow Caltrans traffic study requirements outlined in the Caltrans *Transportation Impact Study Guide (*February 2020*).*

STUDY AREA

The following intersections will be analyzed for potential project-related effects:

1. Key Pointe Dr at Amargosa Rd
2. US-395 at Main St/ Phelan Rd
3. Mesa Linda St at Main St
4. Cataba Rd at Main St
5. Key Pointe Dr at Main St
6. I-15 SB Ramps at Main St
7. 1-15 NB Ramps at Main St
8. Mariposa Rd at Main St
9. Mountain Vista Ave at Main St
10. Escondido Ave at Main St
11. Topaz Ave at Main St

D1. Key Pointe Dr at South Fuel Entrance Driveway
D2. Amargosa Rd at North Fuel Entrance Driveway
D3. Amargosa Rd at West Retail Driveway/West Fuel Exit Driveway
D4. Amargosa Rd at East Retail Driveway/East Fuel Exit Driveway

STUDY SCENARIOS

- Existing Conditions
- Opening Year 2026
- Opening Year 2026 Plus Project
- Horizon Year 2045
- Horizon Year 2045 Plus Project

For Opening Year 2026 conditions, a 2% annual ambient growth rate will be applied to existing traffic volumes, as well as the addition of Cumulative Project traffic.

TRIP GENERATION

Trip generation estimates for the proposed use are based on the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition) average rates for Shopping Center (>150k) (ITE Land Use 820), Gasoline/Service Station (ITE Land Use 944) and Automated Car Wash (ITE Land Use 948). Pass-by reduction factors were applied based on the ITE Trip Generation Manual (11th Edition).

The trip generation rates and the resulting trip generation estimates for the proposed big box retail project are summarized on **Attachment B**. After applying pass-by reduction factors, the proposed project is estimated to generate approximately 6,476 net new trips on a daily basis with 246 trips (140 inbound and 106 outbound) in the morning peak hour and 651 trips (318 inbound and 333 outbound) in the evening peak hour.

It should be noted that pass-by trips will only be applied at Intersection #1, #5, #D1, #D2, #D3, and #D4, as those locations include/are adjacent to project driveways.

TRIP DISTRIBUTION

Project distribution assumptions were developed based on existing travel patterns, and the likely origins and destinations of site employees and patrons. The project vicinity and trip distribution assumptions are shown on **Attachment C.**

ON-SITE QUEUEING AND CIRCULATION

Project traffic will be analyzed for on-site circulation as well as on-site fuel station queueing (average and 95th percentile vehicle queues per fueling lane) to determine if project traffic impacts any access points during peak study periods. Driveway 2 access is expected to be right-in only. Mitigation required as a result of the analysis will be evaluated.

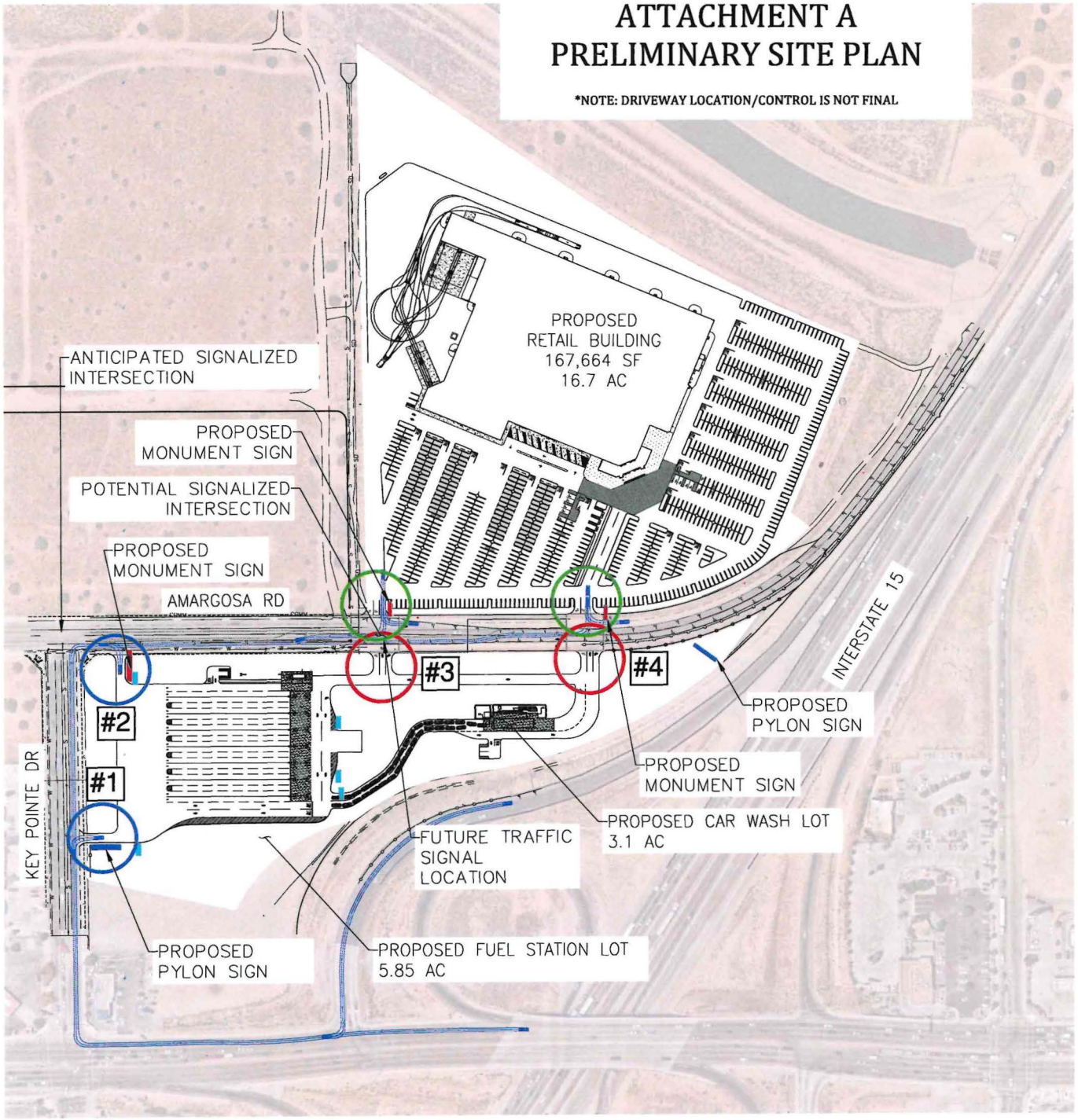
SPECIAL ISSUES

Per correspondence with City staff, the following special issues will be included in the TIA:

- Provide a geometric graphic for Amargosa Road, including all project driveways. The graphic shall also include the intersection of Amargosa Road and Key Pointe Drive.
- Fuel tanker routing graphic with truck turn templates.
- Delivery truck routing graphic with turn templates.
- Signal progression analysis with left-turn lane storage requirements for Driveway 3 and the intersection of Amargosa Road & Key Pointe Drive.
- Fair-share analysis for proposed improvements.

ATTACHMENT A
PRELIMINARY SITE PLAN

*NOTE: DRIVEWAY LOCATION/CONTROL IS NOT FINAL



LEGEND

PROPOSED PROPERTY LINE

EXISTING STREET CENTERLINE

ACCESS

FULL ACCESS

ENTRANCE ONLY

EXIT ONLY

SITE ATTRIBUTES

- 4.30 PARKING RATIO
- 721 PARKING SPACES
- 14 PUMP FUEL
- 3 LEVEL 3 CHARGERS

SIGNAGE

MONUMENT SIGN

PYLON SIGN

FUEL/CARWASH/EXIT SIGN

NORTH

GRAPHIC SCALE IN FEET
0 40 80 160

SCALE: 1" = 80' WHEN PRINTED AT FULL SIZE 30"X42"

Kimley»Horn © 2024
1100 W TOWN AND COUNTRY, SUITE 700
ORANGE, CALIFORNIA 92868 (714) 939-1030

NW I-15 AND N AMARGOSA RD

PRELIMINARY SITE PLAN - OPT 5

HESPERIA, CA

PROJECT No.	
SCALE (H):	1" = 80'
SCALE (V):	N/A
DRAWN BY:	ES
DESIGN BY:	ES
CHECK BY:	RA
DATE:	10/30/2024

ATTACHMENT B
SUMMARY OF PROJECT TRIP GENERATION
HESPERIA BIG BOX RETAIL AND FUEL STATION

Land Use	ITE Code	Unit	Trip Generation Rates [1]						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Shopping Center (>150k)	820	KSF	37.010	0.521	0.319	0.840	1.632	1.768	3.400
Gasoline/Service Station	944	Fueling Position	172.010	5.140	5.140	10.280	6.955	6.955	13.910
Automated Car Wash	948	Tunnel	775.000	38.750	38.750	77.500	38.75	38.75	77.5

Land Use	Quantity	Unit	Trip Generation Estimates						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Shopping Center (>150k)	167.664	KSF	6,205	87	53	140	274	296	570
Pass-by Trips (14.5% Daily, 0% AM, 29% PM) [1,2]			*-1,799*	*0*	*0*	*0*	*-79*	*-86*	*-165*
Net Trips			***4,406***	***87***	***53***	***140***	***195***	***210***	***405***
Gasoline/Service Station	28	Fueling Position	4,816	144	144	288	195	195	390
Pass-by Trips (60% Daily, 63% AM, 57% PM) [1,2]			*-2,745*	*-91*	*-91*	*-182*	*-111*	*-111*	*-222*
Net Trips			***2,071***	***53***	***53***	***106***	***84***	***84***	***168***
Automated Car Wash	1.000	Tunnel	775	39	39	*78*	39	39	78
Net Trips			**775**	**39**	**39**	**78**	**39**	**39**	**78**
Total Project Trips			**7,251**	**179**	**145**	**324**	**318**	**333**	**651**

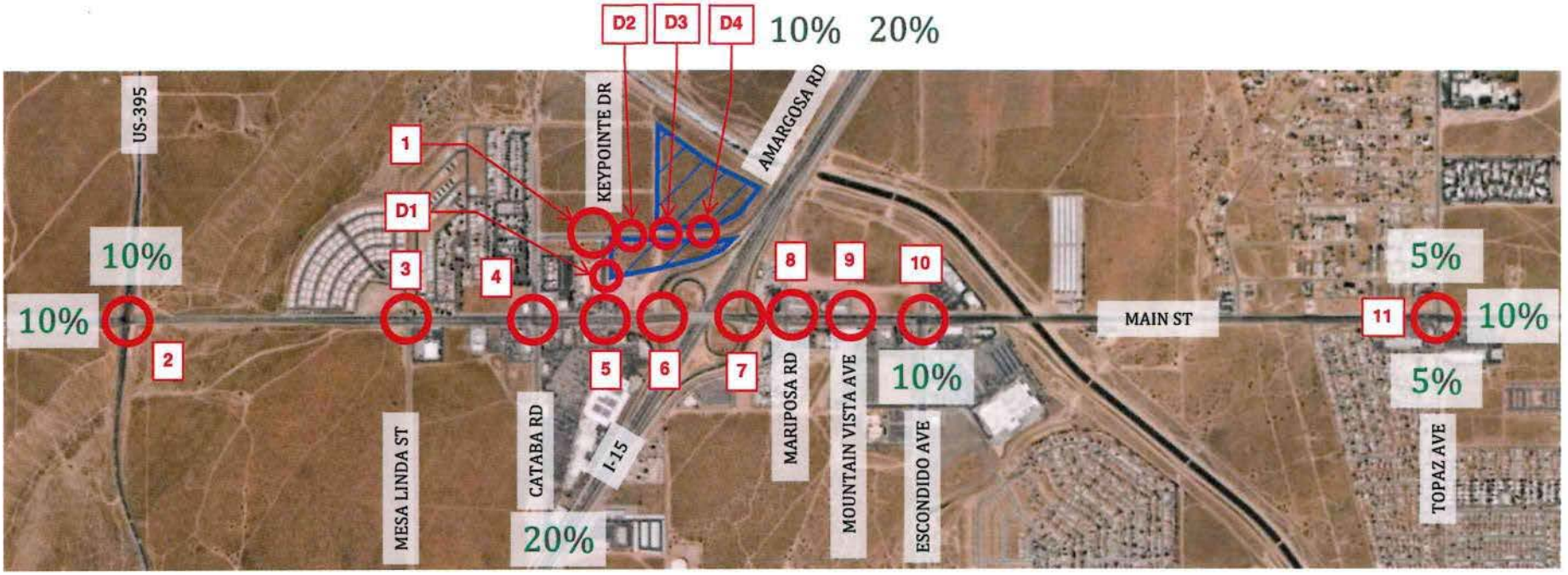
[1] Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition

[2] Daily Pass-By rates were calculated using the average of AM and PM Pass-By rates

[3] No Daily or AM trip rate data is published by ITE for LU 948 (Automated Car Wash). To maintain a conservative analysis, AM trips were assumed to be equivalent to PM trips, and daily trips were assumed to be 10 times the PM peak.

[4] Pass-by trips will only be applied at Intersection #1, #5, #D1, #D2, #D3, and #D4, as those locations include/are adjacent to project driveways.

ATTACHMENT C
TRIP DISTRIBUTION AND STUDY AREA



LEGEND:

PROJECT SITE

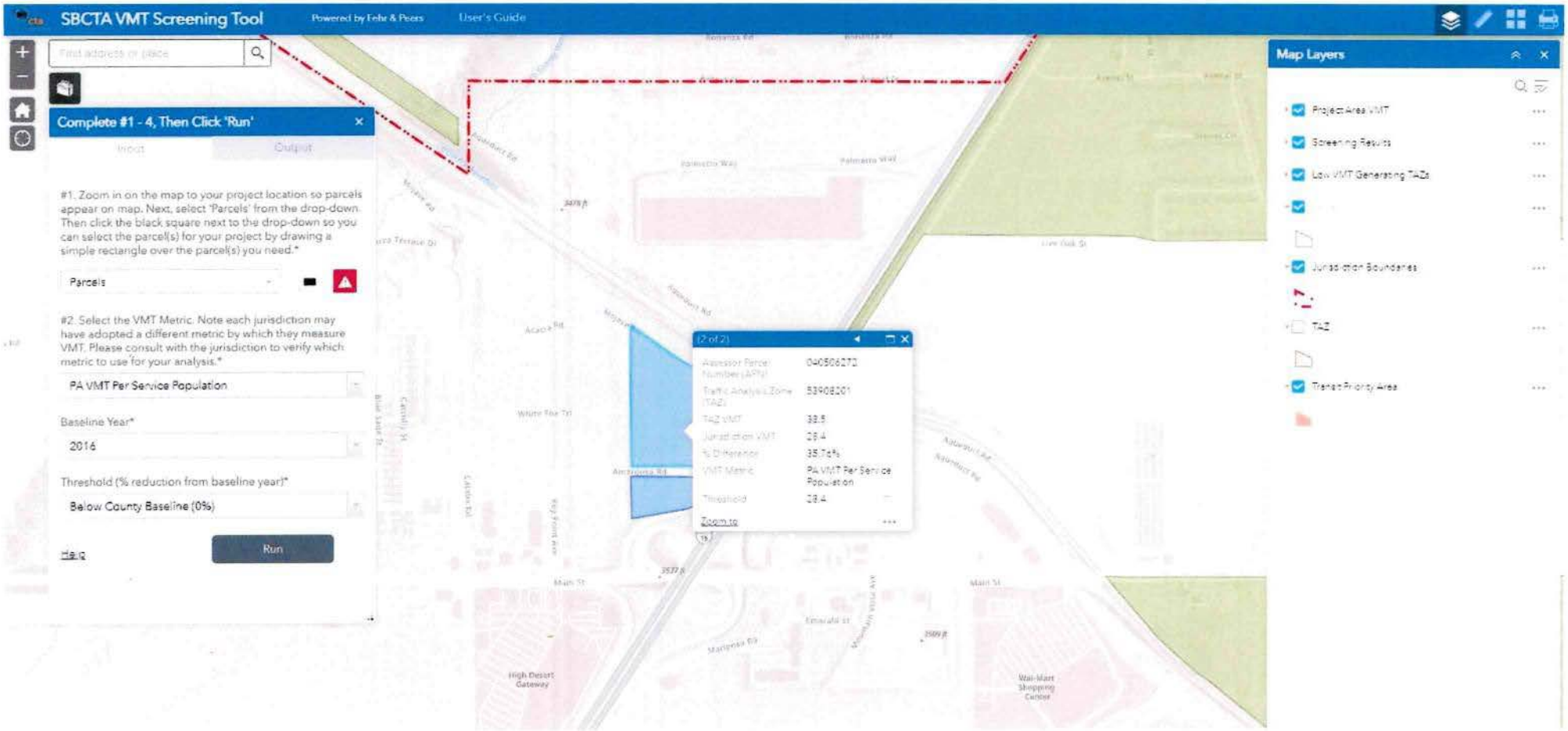
STUDY INTERSECTION/DRIVEWAY

XX% TRIP DISTRIBUTION PERCENTAGE

STUDY INTERSECTION

N
NTS

ATTACHMENT D
SBCTA VMT SCREENING TOOL



VEHICLE MILES TRAVELED (VMT) APPROACH

Introduction

Senate Bill (SB) 743 was approved by the California legislature in September 2013. SB 743 requires changes to California Environmental Quality Act (CEQA), specifically directing the Governor's Office of Planning and Research (OPR) to develop alternative metrics to the use of vehicular "level of service" (LOS) for evaluating transportation projects. OPR has updated guidelines for CEQA and has written a technical advisory for evaluating transportation impacts in CEQA and set a deadline of July 1, 2020 for local agencies to update their CEQA transportation procedures. OPR has recommended that Vehicle Miles Traveled (VMT) replace LOS as the primary measure of transportation impacts. The City of Hesperia now relies on VMT as the measure for determining a project significant transportation impact under the CEQA process.

This technical report was prepared to document the VMT analysis for the big box retail project following the City's traffic requirements and SBCTA Guidelines.

Vehicle Miles Traveled Screening

This section documents Vehicle Miles Traveled (VMT)/ SB 743 considerations for the Project. The City of Hesperia guidelines provide details on appropriate screening thresholds that can be used to identify when a proposed land use project is anticipated to result in a less-than-significant impact without conducting a more detailed level analysis. Screening thresholds are broken into the following three criteria:

1. Transit Priority Area (TPA) Screening
2. Low VMT Area Screening
3. Project Type Screening

A land use project needs only to meet one of the above screening thresholds to be presumed to result in a less-than-significant impact under CEQA pursuant to SB 743.

Transit Priority Area (TPA) Screening

Projects located within a half (½) mile from an existing major transit stop or within half (½) of a mile from an existing stop along a high-quality transit corridor can be screened out of further VMT analysis. Based on the SBCTA VMT screening tool, the project site is not located within a TPA. The SBCTA VMT screening tool for the proposed project is provided on **Attachment D**.

The TPA screening criteria is not met.

Low VMT Area Screening

A project located within a low VMT area as determined by the City's traffic requirements, the SBCTA Guidelines, and the SBCTA VMT screening tool would be considered to have a less-than-significant transportation impact. Based on the SBCTA VMT screening tool, the proposed project is not located within a Low VMT (below County Average) zone. The SBCTA VMT screening tool results are provided on Attachment D (previously mentioned).

The Low VMT Area screening criteria is not met.

Project Type Screening

Based on City of Hesperia Guidelines, local-serving retails less than 50,000 SF may be presumed to have a less-than-significant transportation impact. The other following- use can be presumed to have a less-than-significant impact as the following uses are local-serving in nature:

- Local-serving K-12 Schools
- Local parks
- Day care centers
- Local serving gas stations
- Local serving banks
- Local-serving hotels
- Student housing projects
- Local-serving assembly uses
- Local serving community colleges
- Affordable or supportive housing
- Assisted living facilities
- Senior housing
- Projects generating less than 110 daily vehicle trips

The proposed big box retail project is greater than 50,000 SF. Hence the proposed project would not meet the intent of SB 743 and would not reduce VMT by providing a local-serving retail use.

The Project Type screening criteria is not met.

Conclusion

Based on review of the VMT screening criteria, the project does not meet the any screening criteria. Therefore, the project would result in a significant transportation impact and additional VMT analysis is required. This will be analyzed as part of the TIA.

Please contact me if you have any questions or comments.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

Dallas Willey
Project Engineer

APPROVED:

By:

_____.

Edgar Gonzalez
Senior Planner
City of Hesperia

APPENDIX **C**

TRAFFIC COUNT DATA SHEETS

APPENDIX C-1

TRAFFIC COUNT DATA SHEETS – FOR LOS ANALYSIS

INTERSECTION TURNING MOVEMENT COUNTS

T012524

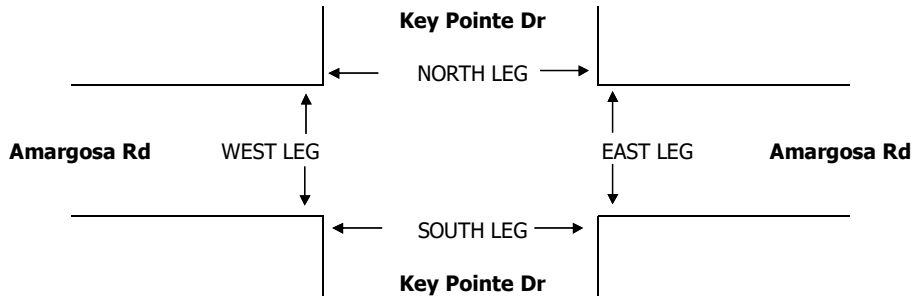
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:					
Wed, May 15, 24	LOCATION:	Hesperia	PROJECT #:	SC4695
	NORTH & SOUTH:	Key Pointe Dr	LOCATION #:	1
	EAST & WEST:	Amargosa Rd	CONTROL:	STOP N

NOTES:

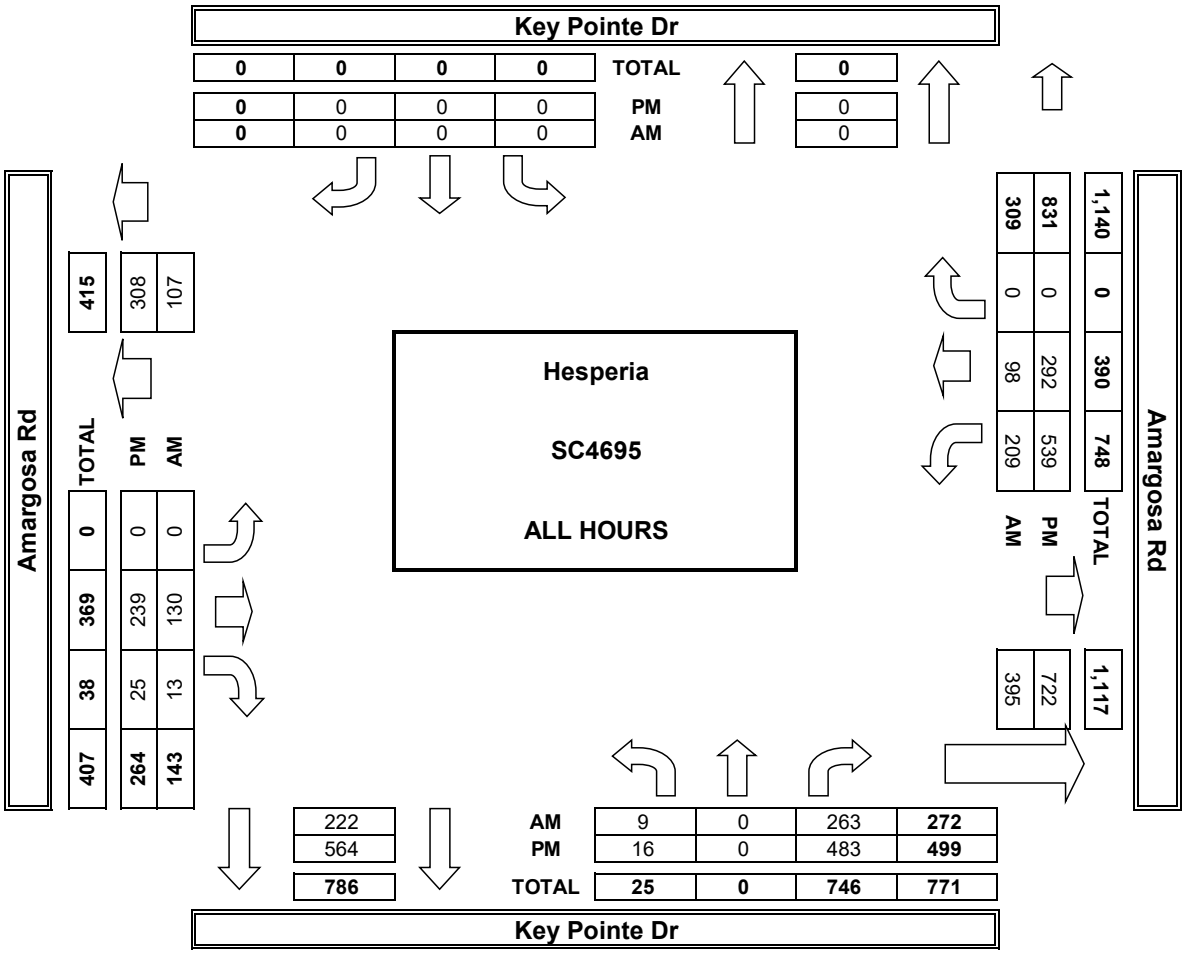
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

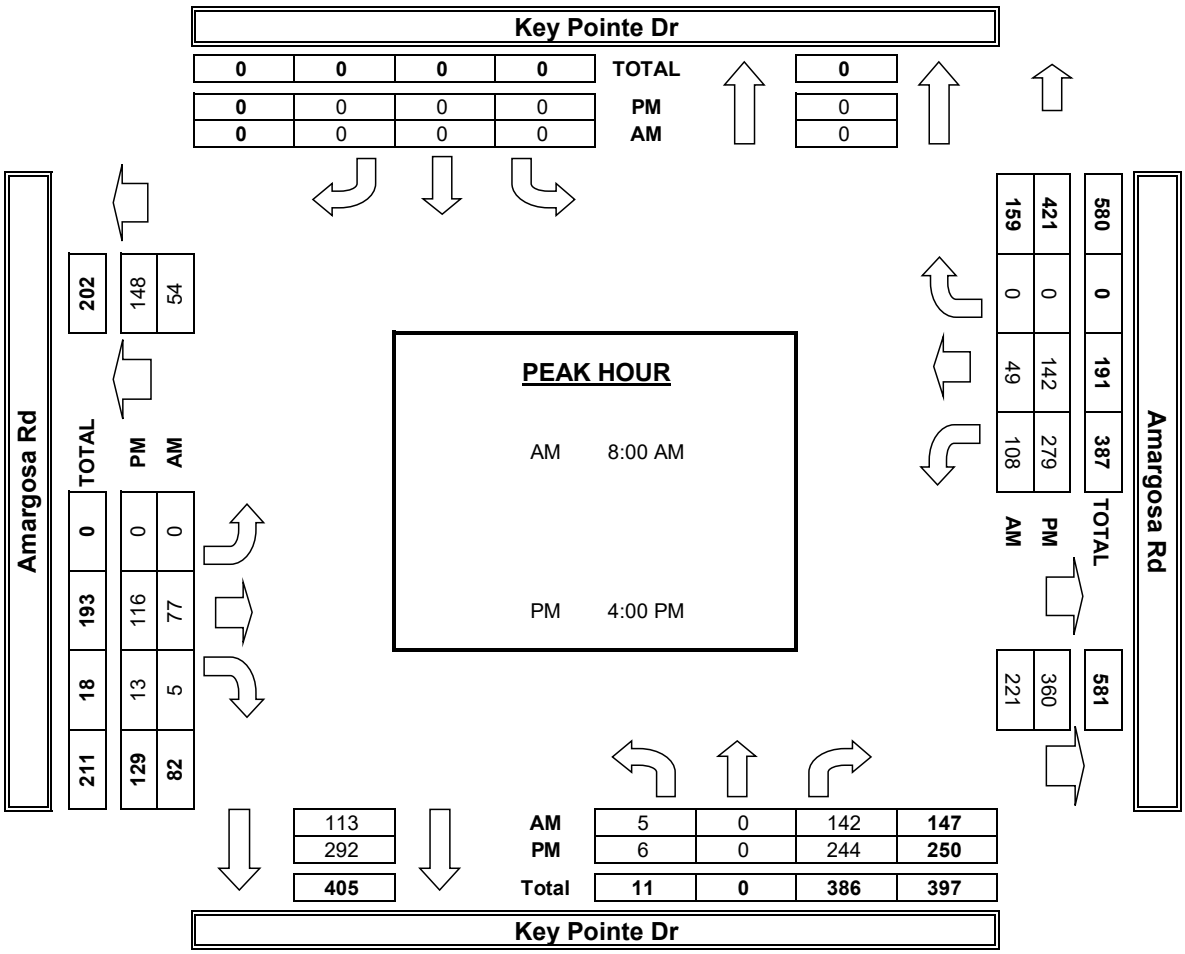
		NORTHBOUND Key Pointe Dr			SOUTHBOUND Key Pointe Dr			EASTBOUND Amargosa Rd			WESTBOUND Amargosa Rd				U-TURNS				
	LANES:	NL 1	NT X	NR 1	SL X	ST X	SR X	EL X	ET 2	ER 0	WL 0	WT 2	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	2	0	21	0	0	0	0	8	0	24	9	0	64	0	0	0	0	0
	7:15 AM	2	0	33	0	0	0	0	9	1	21	14	0	80	0	0	0	0	0
	7:30 AM	0	0	32	0	0	0	0	16	1	25	10	0	84	0	0	0	0	0
	7:45 AM	0	0	35	0	0	0	0	20	6	31	16	0	108	0	0	0	0	0
	8:00 AM	3	0	26	0	0	0	0	24	1	22	9	0	85	0	0	0	1	1
	8:15 AM	0	0	40	0	0	0	0	12	2	23	8	0	85	0	0	0	0	0
	8:30 AM	1	0	36	0	0	0	0	21	1	23	15	0	97	0	0	0	0	0
	8:45 AM	1	0	40	0	0	0	0	20	1	40	17	0	119	0	0	0	1	1
	VOLUMES	9	0	263	0	0	0	0	130	13	209	98	0	724	0	0	0	2	2
	APPROACH %	3%	0%	97%	0%	0%	0%	0%	91%	9%	68%	32%	0%						
	APP/DEPART	272	/	0	0	/	222	143	/	395	309	/	107	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	5	0	142	0	0	0	0	77	5	108	49	0	388	0	0	0	2	
	APPROACH %	3%	0%	97%	0%	0%	0%	0%	94%	6%	68%	31%	0%						
	PEAK HR FACTOR		0.896			0.000			0.820			0.685		0.808					
	APP/DEPART	147	/	0	0	/	113	82	/	221	159	/	54	0					
PM	4:00 PM	3	0	50	0	0	0	0	35	2	89	38	0	217	0	0	0	0	0
	4:15 PM	2	0	55	0	0	0	0	35	5	72	45	0	214	0	0	0	0	0
	4:30 PM	1	0	73	0	0	0	0	26	6	56	32	0	194	0	0	0	0	0
	4:45 PM	0	0	66	0	0	0	0	20	0	62	27	0	175	0	0	0	0	0
	5:00 PM	1	0	59	0	0	0	0	27	2	72	29	0	190	0	0	0	0	0
	5:15 PM	4	0	61	0	0	0	0	32	3	66	39	0	205	0	0	0	0	0
	5:30 PM	3	0	59	0	0	0	0	30	4	66	44	0	206	0	0	0	0	0
	5:45 PM	2	0	60	0	0	0	0	34	3	56	38	0	193	0	0	0	0	0
	VOLUMES	16	0	483	0	0	0	0	239	25	539	292	0	1,594	0	0	0	0	0
	APPROACH %	3%	0%	97%	0%	0%	0%	0%	91%	9%	65%	35%	0%						
	APP/DEPART	499	/	0	0	/	564	264	/	722	831	/	308	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	6	0	244	0	0	0	0	116	13	279	142	0	800	0	0	0	0	
	APPROACH %	2%	0%	98%	0%	0%	0%	0%	90%	10%	66%	34%	0%						
	PEAK HR FACTOR		0.845			0.000			0.806			0.829		0.922					
	APP/DEPART	250	/	0	0	/	292	129	/	360	421	/	148	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T012524

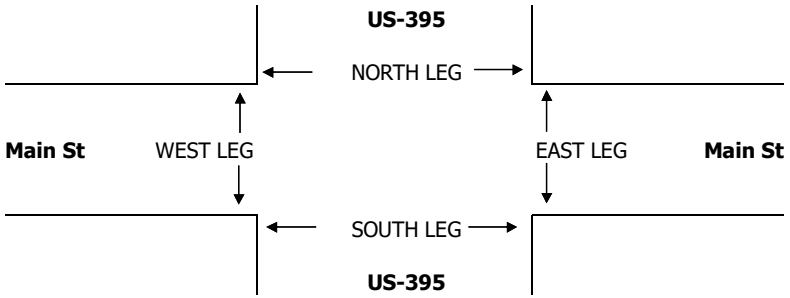
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:					
Wed, May 15, 24	LOCATION:	Hesperia	PROJECT #:	SC4695	
	NORTH & SOUTH:	US-395	LOCATION #:	2	
	EAST & WEST:	Main St	CONTROL:	SIGNAL	

NOTES:

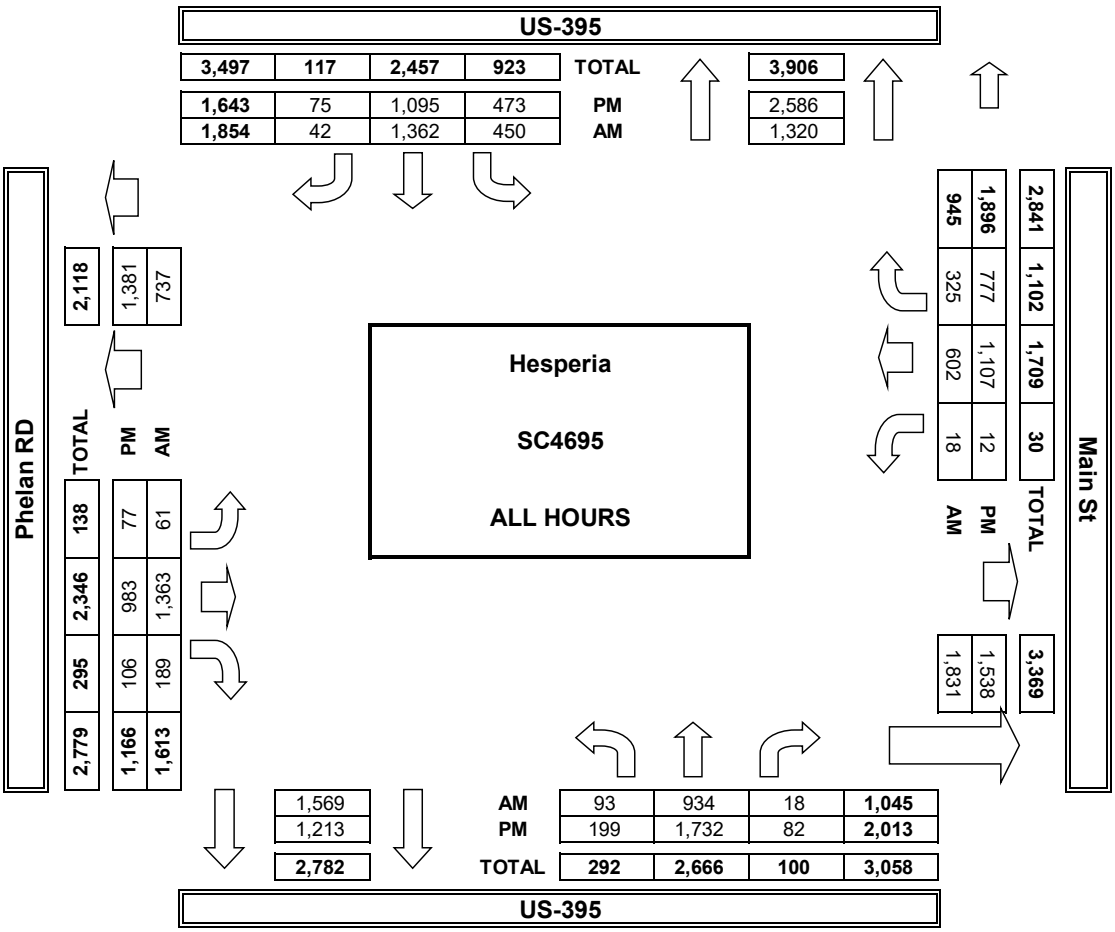
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

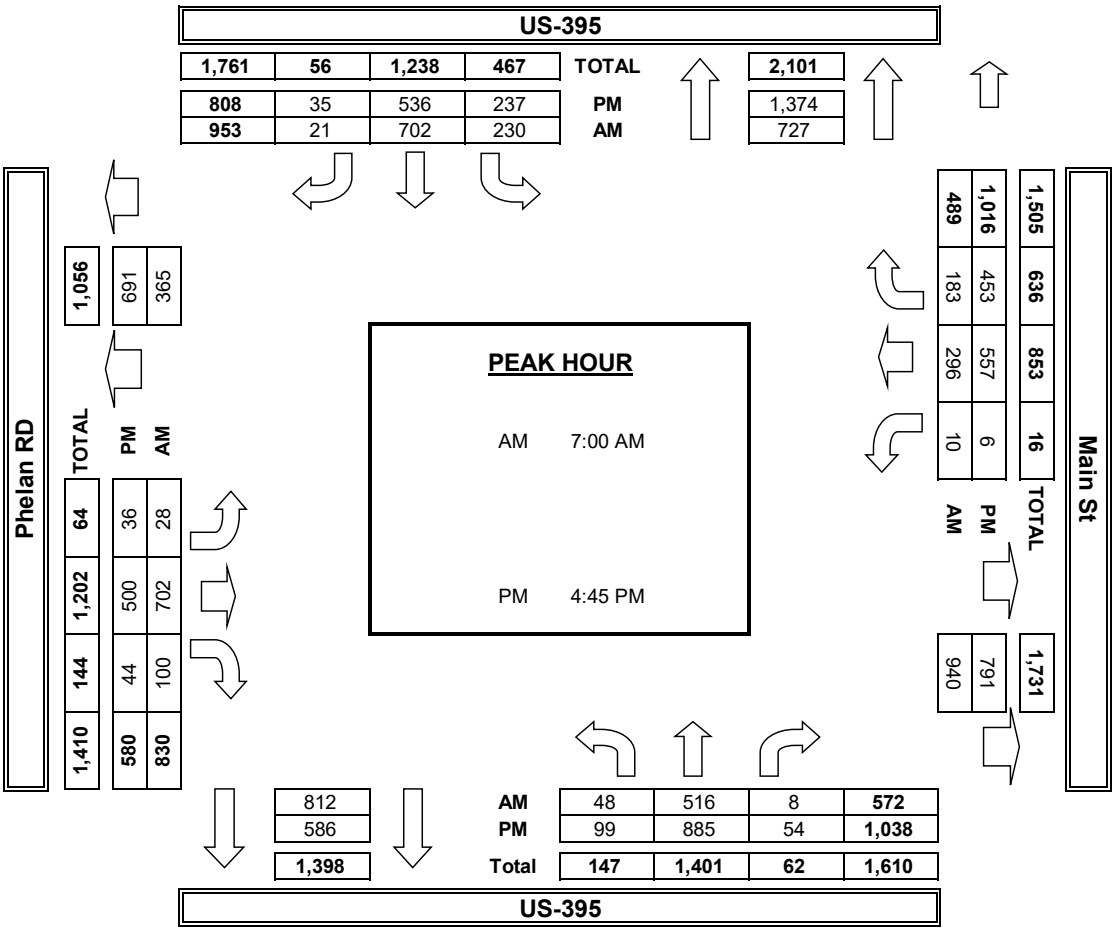
		NORTHBOUND US-395			SOUTHBOUND US-395			EASTBOUND Phelan RD			WESTBOUND Main St				U-TURNS				
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	11	119	4	54	176	16	1	156	27	1	57	43	665	0	0	0	0	0
	7:15 AM	13	129	1	64	181	2	6	174	15	3	89	39	716	0	0	0	0	0
	7:30 AM	11	129	0	54	161	3	12	193	36	4	72	58	733	0	0	0	0	0
	7:45 AM	13	139	3	58	184	0	9	179	22	2	78	43	730	0	0	0	0	0
	8:00 AM	6	111	5	43	171	4	10	164	15	0	61	35	625	0	0	0	0	0
	8:15 AM	15	97	0	57	162	1	6	171	20	3	85	40	657	0	0	0	0	0
	8:30 AM	14	102	4	61	148	9	8	169	25	2	91	40	673	0	0	0	0	0
	8:45 AM	10	108	1	59	179	7	9	157	29	3	69	27	658	0	0	0	0	0
	VOLUMES	93	934	18	450	1,362	42	61	1,363	189	18	602	325	5,457	0	0	0	0	0
	APPROACH %	9%	89%	2%	24%	73%	2%	4%	85%	12%	2%	64%	34%						
	APP/DEPART	1,045	/	1,320	1,854	/	1,569	1,613	/	1,831	945	/	737	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	48	516	8	230	702	21	28	702	100	10	296	183	2,844	0	0	0	0	
	APPROACH %	8%	90%	1%	24%	74%	2%	3%	85%	12%	2%	61%	37%						
	PEAK HR FACTOR		0.923			0.965			0.861			0.912		0.970					
	APP/DEPART	572	/	727	953	/	812	830	/	940	489	/	365	0					
PM	4:00 PM	24	181	4	59	151	10	7	126	15	1	148	80	806	0	0	0	0	0
	4:15 PM	23	218	2	68	140	8	11	115	20	3	152	63	823	0	0	0	0	0
	4:30 PM	33	222	8	57	149	12	15	124	16	1	129	71	837	0	0	0	0	0
	4:45 PM	22	169	11	69	128	10	13	133	12	2	148	94	811	0	0	0	0	0
	5:00 PM	23	261	15	58	160	8	10	126	17	1	115	114	908	0	0	0	0	0
	5:15 PM	28	209	12	67	126	6	9	125	8	1	152	126	869	0	0	0	0	0
	5:30 PM	26	246	16	43	122	11	4	116	7	2	142	119	854	0	0	0	0	0
	5:45 PM	20	226	14	52	119	10	8	118	11	1	121	110	810	0	0	0	0	0
	VOLUMES	199	1,732	82	473	1,095	75	77	983	106	12	1,107	777	6,718	0	0	0	0	0
	APPROACH %	10%	86%	4%	29%	67%	5%	7%	84%	9%	1%	58%	41%						
	APP/DEPART	2,013	/	2,586	1,643	/	1,213	1,166	/	1,538	1,896	/	1,381	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	99	885	54	237	536	35	36	500	44	6	557	453	3,442	0	0	0	0	
	APPROACH %	10%	85%	5%	29%	66%	4%	6%	86%	8%	1%	55%	45%						
	PEAK HR FACTOR		0.868			0.894			0.918			0.910		0.948					
	APP/DEPART	1,038	/	1,374	808	/	586	580	/	791	1,016	/	691	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T012524

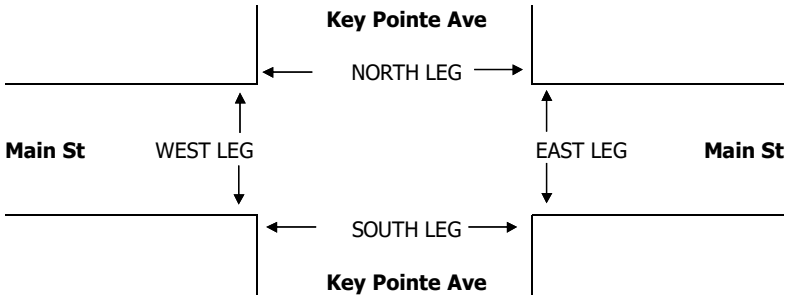
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Hesperia	PROJECT #:	SC4695
Wed, May 15, 24	NORTH & SOUTH:	Key Pointe Ave	LOCATION #:	3
	EAST & WEST:	Main St	CONTROL:	SIGNAL

NOTES:

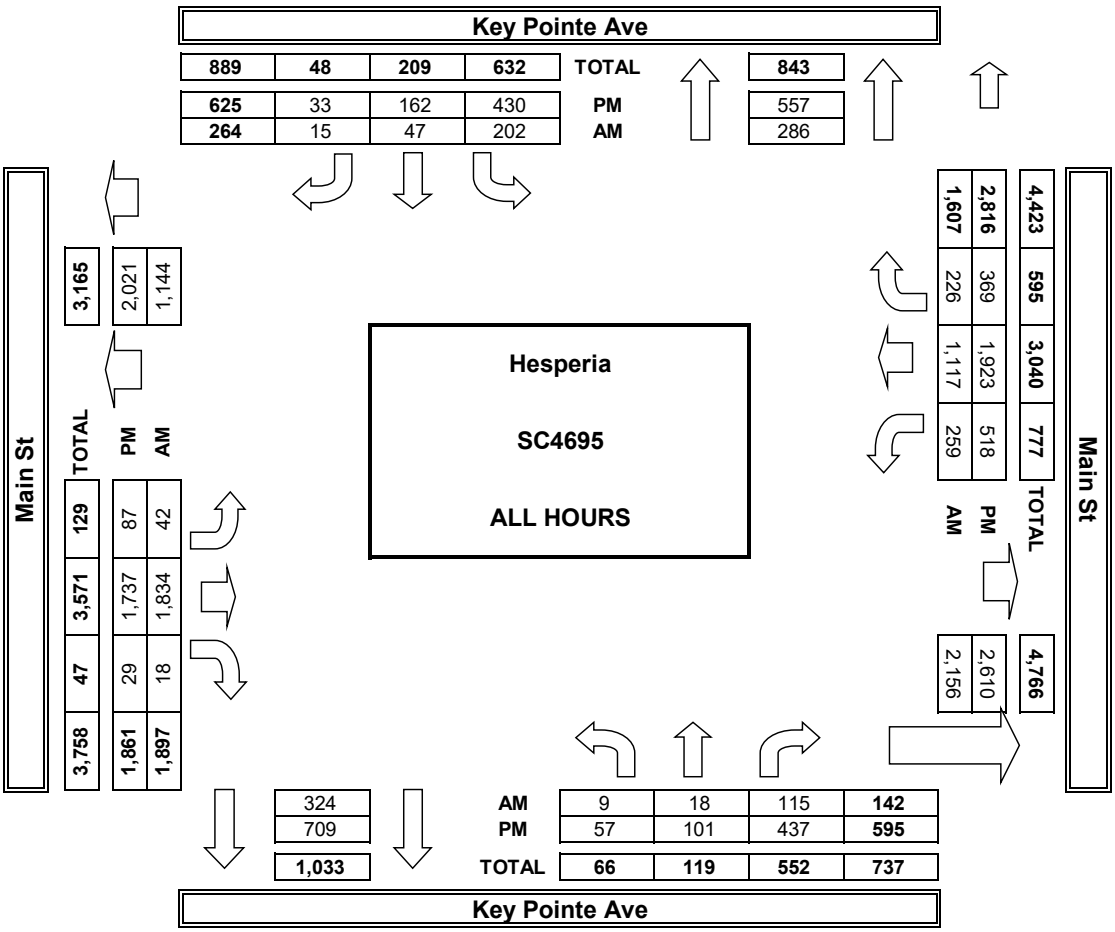
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

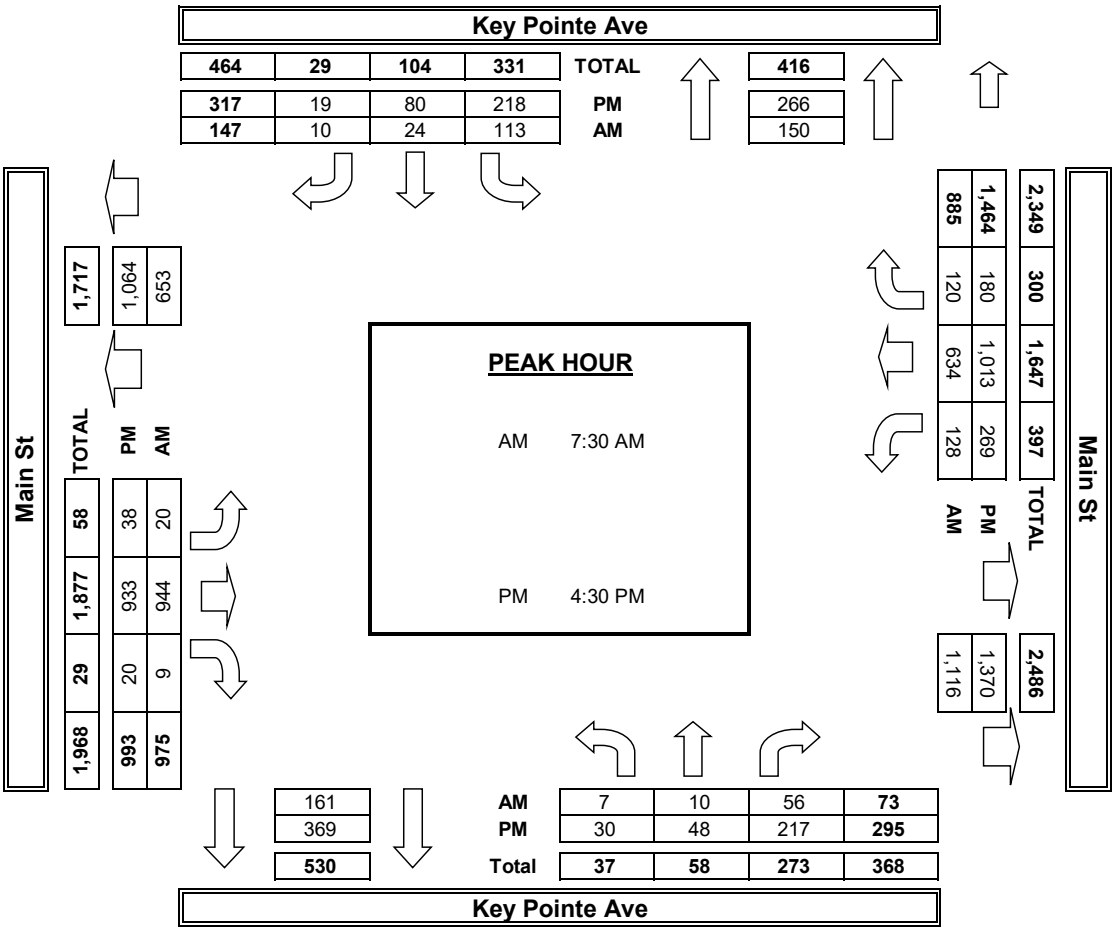
		NORTHBOUND Key Pointe Ave			SOUTHBOUND Key Pointe Ave			EASTBOUND Main St			WESTBOUND Main St				U-TURNS				
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 0.5	SR 0.5	EL 1	ET 3	ER 1	WL 1	WT 3	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	1	0	6	19	1	1	4	221	2	14	102	21	392	0	0	0	0	0
	7:15 AM	0	1	10	24	2	2	5	238	1	21	132	28	464	0	0	0	1	1
	7:30 AM	1	3	9	28	5	1	2	242	1	26	170	31	519	0	0	0	2	2
	7:45 AM	2	1	17	32	4	4	3	247	5	31	159	25	530	0	0	1	0	1
	8:00 AM	2	2	14	30	8	2	9	231	2	32	146	35	513	0	0	0	0	0
	8:15 AM	2	4	16	23	7	3	6	224	1	39	159	29	513	0	0	1	1	2
	8:30 AM	1	5	20	25	11	1	6	212	4	42	130	24	481	0	0	1	0	1
	8:45 AM	0	2	23	21	9	1	7	219	2	54	119	33	490	0	0	0	1	1
	VOLUMES	9	18	115	202	47	15	42	1,834	18	259	1,117	226	3,910	0	0	3	5	8
	APPROACH %	6%	13%	81%	77%	18%	6%	2%	97%	1%	16%	70%	14%						
	APP/DEPART	142	/	286	264	/	324	1,897	/	2,156	1,607	/	1,144	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	7	10	56	113	24	10	20	944	9	128	634	120	2,080	0	0	2	3	
	APPROACH %	10%	14%	77%	77%	16%	7%	2%	97%	1%	14%	72%	14%						
	PEAK HR FACTOR		0.830			0.919			0.952			0.966		0.979					
	APP/DEPART	73	/	150	147	/	161	975	/	1,116	885	/	653	0					
PM	4:00 PM	8	15	52	57	18	4	13	183	3	61	258	46	718	0	0	2	1	3
	4:15 PM	4	12	63	66	21	2	10	192	2	55	242	51	720	0	0	2	2	4
	4:30 PM	7	17	51	54	16	5	8	218	6	73	271	42	768	0	0	1	0	1
	4:45 PM	9	8	54	50	27	4	10	229	6	67	254	50	768	0	0	0	1	1
	5:00 PM	9	13	47	61	21	6	11	238	3	58	232	41	740	0	0	1	0	1
	5:15 PM	5	10	65	53	16	4	9	248	5	71	256	47	789	0	0	0	1	1
	5:30 PM	8	12	49	46	26	5	10	223	3	64	227	53	726	0	0	1	0	1
	5:45 PM	7	14	56	43	17	3	16	206	1	69	183	39	654	0	0	1	1	2
	VOLUMES	57	101	437	430	162	33	87	1,737	29	518	1,923	369	5,897	0	0	8	6	14
	APPROACH %	10%	17%	73%	69%	26%	5%	5%	93%	2%	18%	68%	13%						
	APP/DEPART	595	/	557	625	/	709	1,861	/	2,610	2,816	/	2,021	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	30	48	217	218	80	19	38	933	20	269	1,013	180	3,069	0	0	2	2	
	APPROACH %	10%	16%	74%	69%	25%	6%	4%	94%	2%	18%	69%	12%						
	PEAK HR FACTOR		0.922			0.901			0.948			0.948		0.971					
	APP/DEPART	295	/	266	317	/	369	993	/	1,370	1,464	/	1,064	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T012524

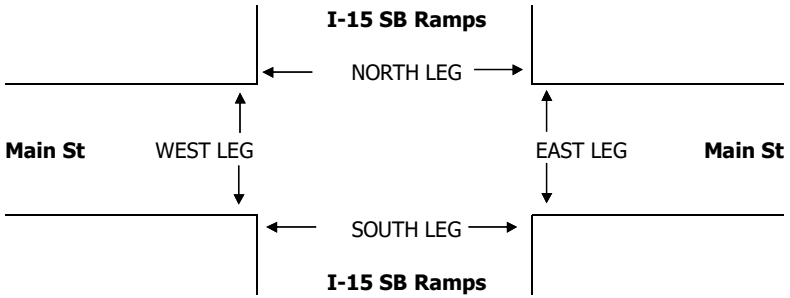
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Wed, May 15, 24	LOCATION:	Hesperia	PROJECT #:	SC4695
	NORTH & SOUTH:	I-15 SB Ramps	LOCATION #:	4
	EAST & WEST:	Main St	CONTROL:	SIGNAL

NOTES:

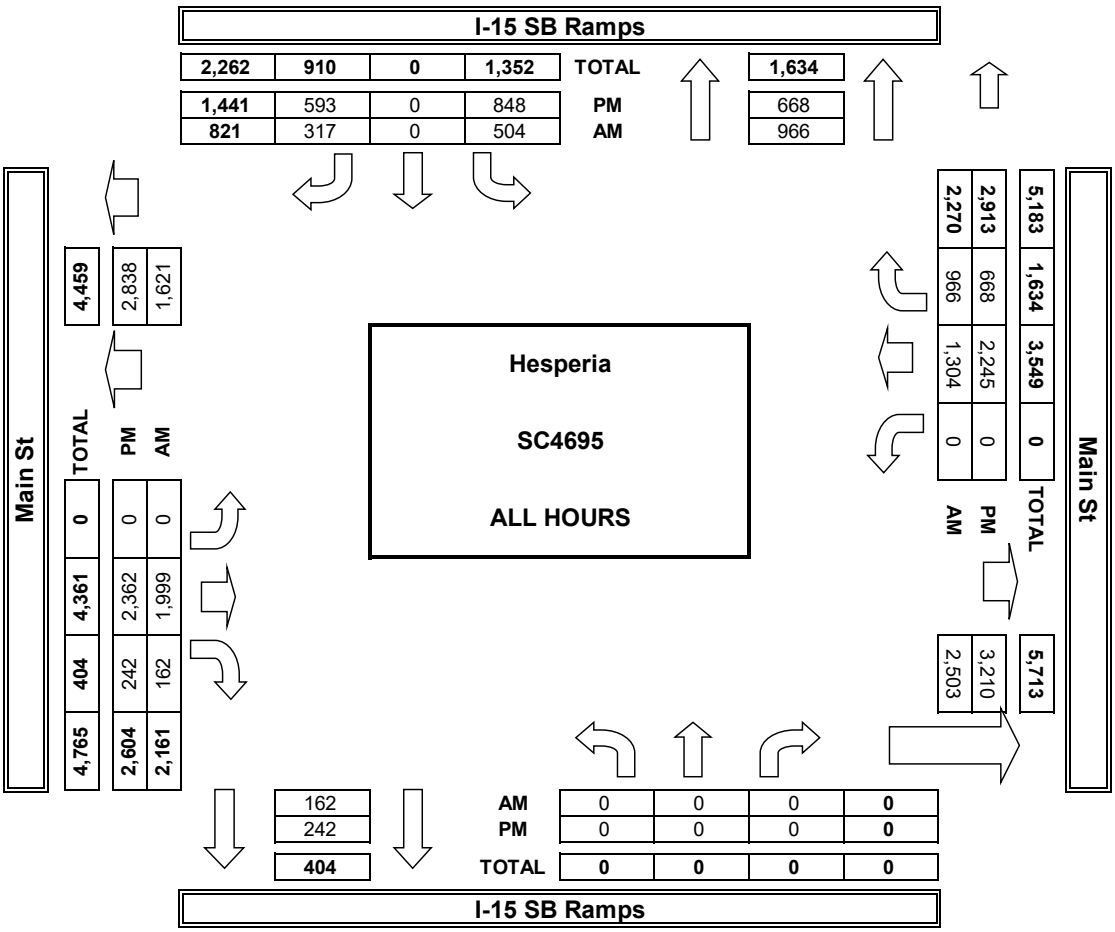
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

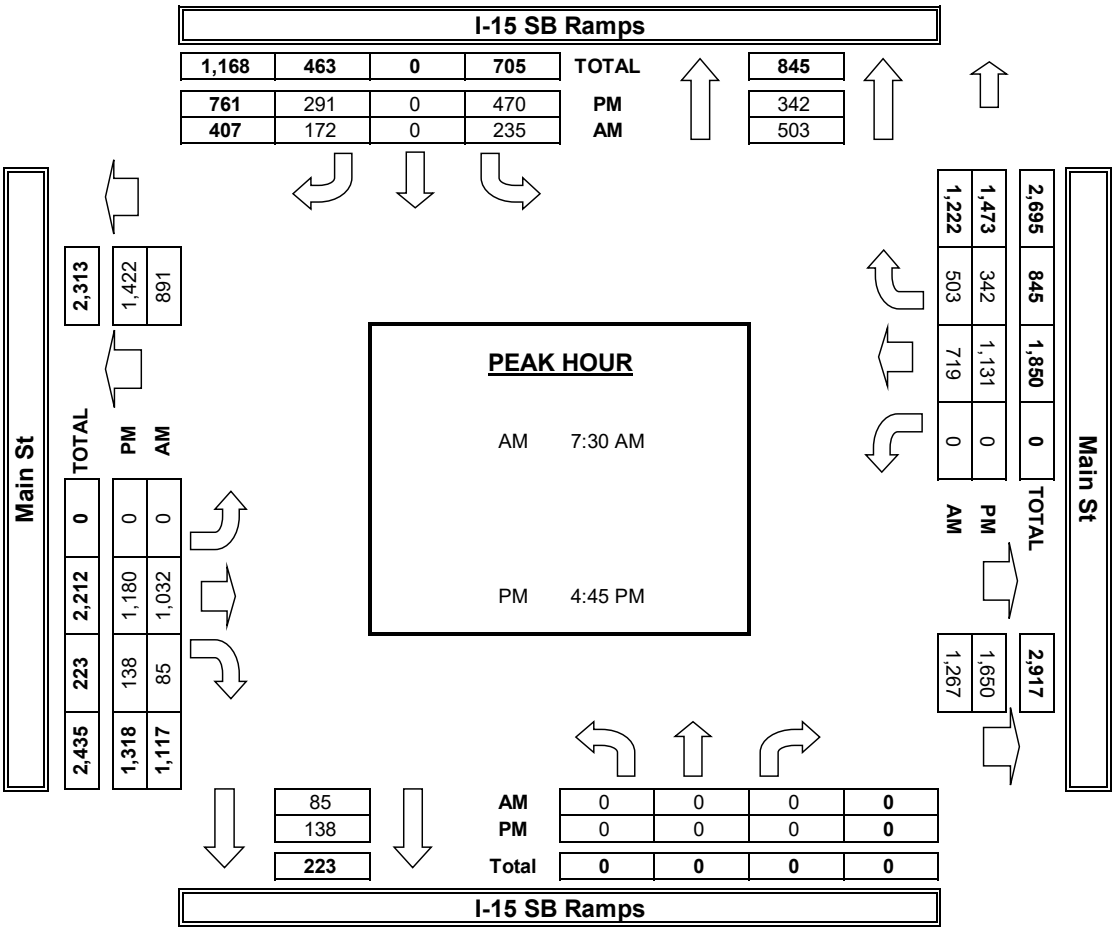
		NORTHBOUND I-15 SB Ramps			SOUTHBOUND I-15 SB Ramps			EASTBOUND Main St			WESTBOUND Main St				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 2	ST X	SR 1	EL X	ET 3	ER 1	WL X	WT 3	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	0	0	77	0	21	0	247	18	0	116	122	601	0	0	0	0	0
	7:15 AM	0	0	0	65	0	26	0	258	19	0	150	131	649	0	0	0	0	0
	7:30 AM	0	0	0	53	0	44	0	241	21	0	193	137	689	0	0	0	0	0
	7:45 AM	0	0	0	69	0	42	0	282	24	0	172	123	712	0	0	0	0	0
	8:00 AM	0	0	0	45	0	43	0	264	15	0	163	114	644	0	0	0	0	0
	8:15 AM	0	0	0	68	0	43	0	245	25	0	191	129	701	0	0	0	0	0
	8:30 AM	0	0	0	72	0	46	0	229	17	0	174	112	650	0	0	0	0	0
	8:45 AM	0	0	0	55	0	52	0	233	23	0	145	98	606	0	0	0	0	0
	VOLUMES	0	0	0	504	0	317	0	1,999	162	0	1,304	966	5,252	0	0	0	0	0
	APPROACH %	0%	0%	0%	61%	0%	39%	0%	93%	7%	0%	57%	43%						
	APP/DEPART	0	/	966	821	/	162	2,161	/	2,503	2,270	/	1,621	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	235	0	172	0	1,032	85	0	719	503	2,746	0	0	0	0	
	APPROACH %	0%	0%	0%	58%	0%	42%	0%	92%	8%	0%	59%	41%						
	PEAK HR FACTOR		0.000			0.917			0.913			0.926		0.964					
	APP/DEPART	0	/	503	407	/	85	1,117	/	1,267	1,222	/	891	0					
PM	4:00 PM	0	0	0	99	0	74	0	306	31	0	280	91	881	0	0	0	0	0
	4:15 PM	0	0	0	91	0	81	0	324	29	0	295	87	907	0	0	0	0	0
	4:30 PM	0	0	0	97	0	78	0	282	25	0	255	79	816	0	0	0	0	0
	4:45 PM	0	0	0	115	0	72	0	276	40	0	266	84	853	0	0	0	0	0
	5:00 PM	0	0	0	119	0	68	0	291	35	0	287	95	895	0	0	0	0	0
	5:15 PM	0	0	0	129	0	77	0	312	40	0	276	86	920	0	0	0	0	0
	5:30 PM	0	0	0	107	0	74	0	301	23	0	302	77	884	0	0	0	0	0
	5:45 PM	0	0	0	91	0	69	0	270	19	0	284	69	802	0	0	0	0	0
	VOLUMES	0	0	0	848	0	593	0	2,362	242	0	2,245	668	6,958	0	0	0	0	0
	APPROACH %	0%	0%	0%	59%	0%	41%	0%	91%	9%	0%	77%	23%						
	APP/DEPART	0	/	668	1,441	/	242	2,604	/	3,210	2,913	/	2,838	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	0	0	0	470	0	291	0	1,180	138	0	1,131	342	3,552	0	0	0	0	
	APPROACH %	0%	0%	0%	62%	0%	38%	0%	90%	10%	0%	77%	23%						
	PEAK HR FACTOR		0.000			0.924			0.936			0.964		0.965					
	APP/DEPART	0	/	342	761	/	138	1,318	/	1,650	1,473	/	1,422	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T012524

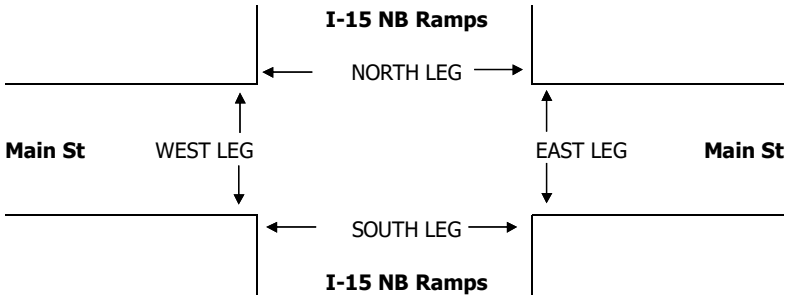
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Wed, May 15, 24	LOCATION:	Hesperia	PROJECT #:	SC4695
	NORTH & SOUTH:	I-15 NB Ramps	LOCATION #:	5
	EAST & WEST:	Main St	CONTROL:	SIGNAL

NOTES:

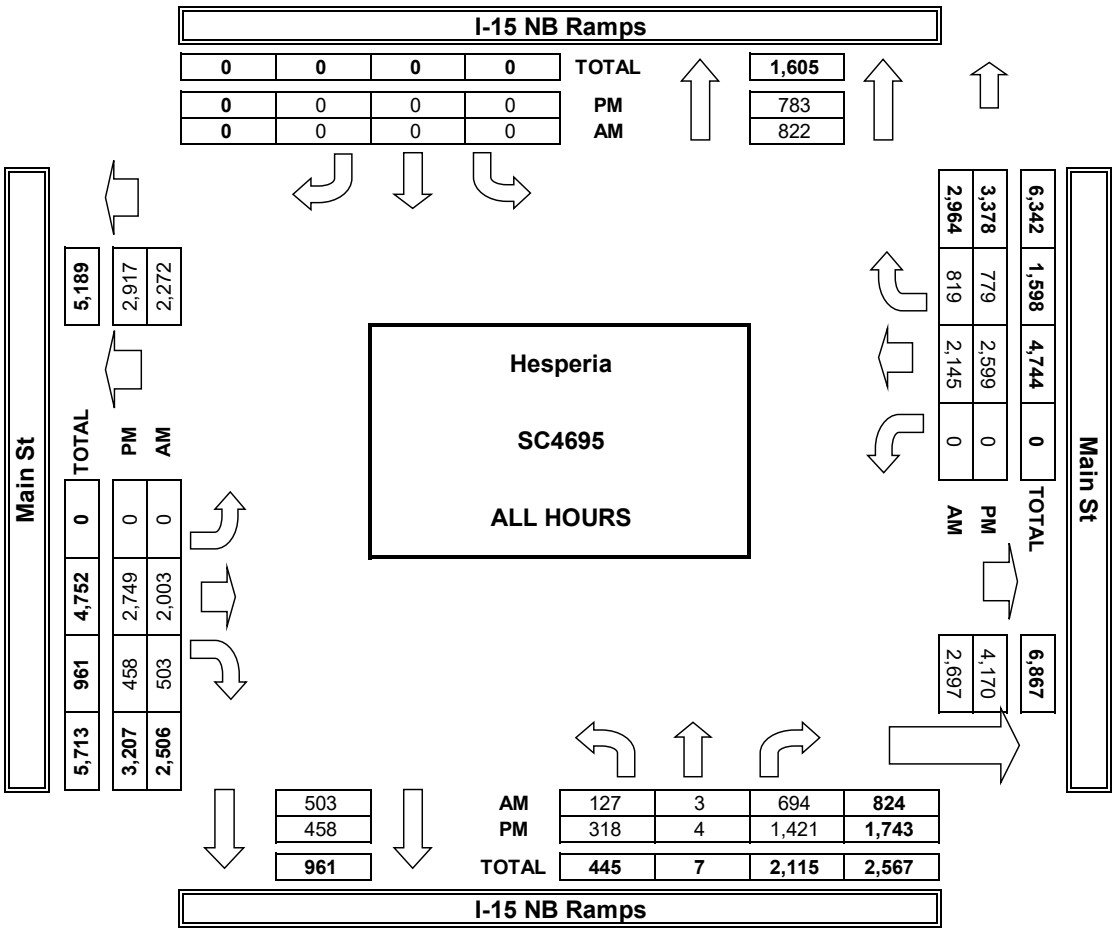
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

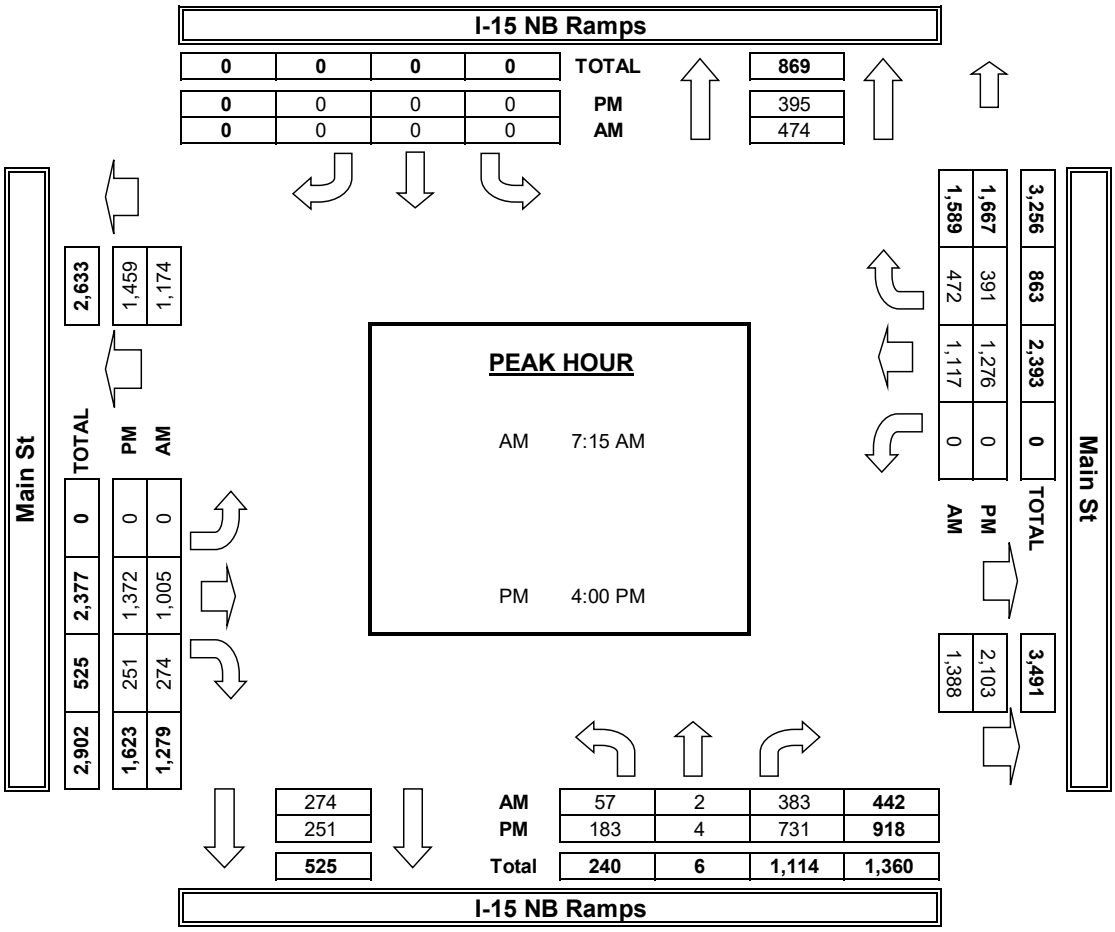
		NORTHBOUND I-15 NB Ramps			SOUTHBOUND I-15 NB Ramps			EASTBOUND Main St			WESTBOUND Main St				U-TURNS				
	LANES:	NL 1	NT 0.5	NR 1.5	SL X	ST X	SR X	EL X	ET 3	ER 1	WL X	WT 3	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	13	0	91	0	0	0	0	272	57	0	245	77	755	0	0	0	0	0
	7:15 AM	8	1	102	0	0	0	0	262	69	0	282	110	834	0	0	0	0	0
	7:30 AM	13	1	94	0	0	0	0	244	61	0	319	142	874	0	0	0	0	0
	7:45 AM	18	0	99	0	0	0	0	265	76	0	252	118	828	0	0	0	0	0
	8:00 AM	18	0	88	0	0	0	0	234	68	0	264	102	774	0	0	0	0	0
	8:15 AM	22	1	79	0	0	0	0	242	58	0	278	98	778	0	0	0	0	0
	8:30 AM	18	0	73	0	0	0	0	249	53	0	267	82	742	0	0	0	0	0
	8:45 AM	17	0	68	0	0	0	0	235	61	0	238	90	709	0	0	0	0	0
	VOLUMES	127	3	694	0	0	0	0	2,003	503	0	2,145	819	6,294	0	0	0	0	0
	APPROACH %	15%	0%	84%	0%	0%	0%	0%	80%	20%	0%	72%	28%						
	APP/DEPART	824	/	822	0	/	503	2,506	/	2,697	2,964	/	2,272	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	57	2	383	0	0	0	0	1,005	274	0	1,117	472	3,310	0	0	0	0	
	APPROACH %	13%	0%	87%	0%	0%	0%	0%	79%	21%	0%	70%	30%						
	PEAK HR FACTOR		0.944			0.000			0.938			0.862		0.947					
	APP/DEPART	442	/	474	0	/	274	1,279	/	1,388	1,589	/	1,174	0					
PM	4:00 PM	56	2	181	0	0	0	0	334	61	0	337	100	1,071	0	0	0	0	0
	4:15 PM	44	0	183	0	0	0	0	359	71	0	348	93	1,098	0	0	0	0	0
	4:30 PM	40	1	196	0	0	0	0	328	64	0	285	92	1,006	0	0	0	0	0
	4:45 PM	43	1	171	0	0	0	0	351	55	0	306	106	1,033	0	0	0	0	0
	5:00 PM	28	0	183	0	0	0	0	360	59	0	341	89	1,060	0	0	0	0	0
	5:15 PM	35	0	167	0	0	0	0	372	48	0	339	101	1,062	0	0	0	0	0
	5:30 PM	34	0	172	0	0	0	0	356	57	0	328	104	1,051	0	0	0	0	0
	5:45 PM	38	0	168	0	0	0	0	289	43	0	315	94	947	0	0	0	0	0
	VOLUMES	318	4	1,421	0	0	0	0	2,749	458	0	2,599	779	8,328	0	0	0	0	0
	APPROACH %	18%	0%	82%	0%	0%	0%	0%	86%	14%	0%	77%	23%						
	APP/DEPART	1,743	/	783	0	/	458	3,207	/	4,170	3,378	/	2,917	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	183	4	731	0	0	0	0	1,372	251	0	1,276	391	4,208	0	0	0	0	
	APPROACH %	20%	0%	80%	0%	0%	0%	0%	85%	15%	0%	77%	23%						
	PEAK HR FACTOR		0.960			0.000			0.944			0.945		0.958					
	APP/DEPART	918	/	395	0	/	251	1,623	/	2,103	1,667	/	1,459	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T012524

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, May 15, 24

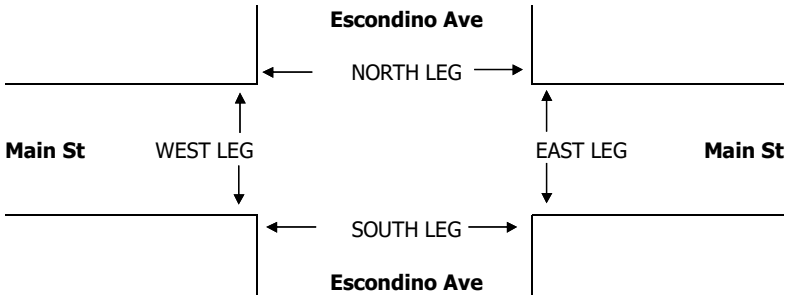
LOCATION: Hesperia
NORTH & SOUTH: Escondino Ave
EAST & WEST: Main St

PROJECT #: SC4695
LOCATION #: 6
CONTROL: SIGNAL

NOTES:

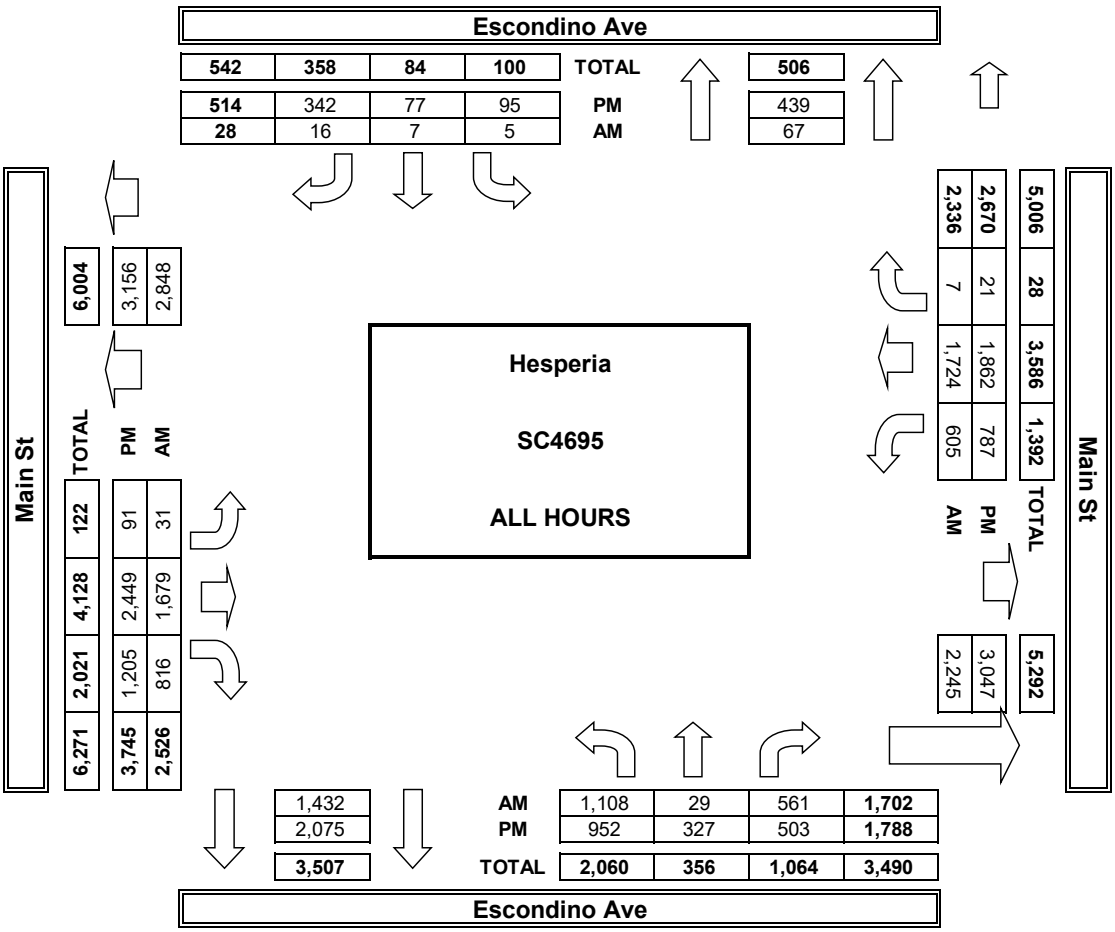
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

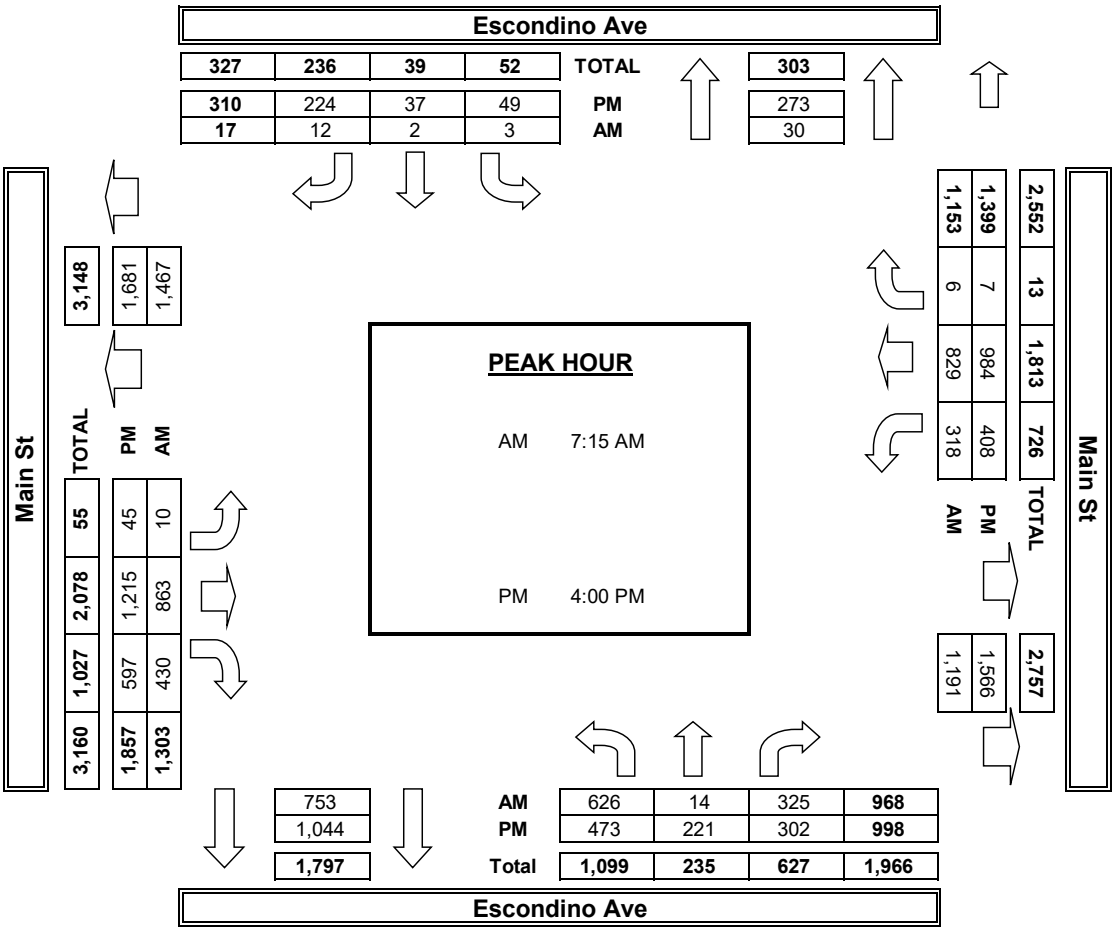
		NORTHBOUND Escondino Ave			SOUTHBOUND Escondino Ave			EASTBOUND Main St			WESTBOUND Main St				U-TURNS				
	LANES:	NL 2	NT 1	NR 1	SL 1	ST 0.5	SR 0.5	EL 1	ET 3	ER 1	WL 2	WT 2	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	102	0	55	0	0	0	2	184	86	53	198	0	680	0	0	0	0	0
	7:15 AM	171	1	84	0	1	6	3	205	109	94	212	2	888	1	0	0	0	1
	7:30 AM	160	3	91	1	1	1	1	214	95	82	206	1	856	0	0	0	0	0
	7:45 AM	154	6	82	0	0	3	2	228	115	71	195	1	857	2	0	0	0	2
	8:00 AM	141	4	68	2	0	2	4	216	111	71	216	2	837	0	0	0	0	0
	8:15 AM	119	1	56	1	2	2	2	193	119	82	239	0	816	0	0	0	0	0
	8:30 AM	125	5	59	1	2	0	3	212	91	87	235	1	821	1	0	0	0	1
	8:45 AM	136	9	66	0	1	2	14	227	90	65	223	0	833	0	0	0	0	0
	VOLUMES	1,108	29	561	5	7	16	31	1,679	816	605	1,724	7	6,592	4	0	0	0	4
	APPROACH %	65%	2%	33%	18%	25%	57%	1%	66%	32%	26%	74%	0%						
	APP/DEPART	1,702	/	67	28	/	1,432	2,526	/	2,245	2,336	/	2,848	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	626	14	325	3	2	12	10	863	430	318	829	6	3,441	3	0	0	0	
	APPROACH %	65%	1%	34%	18%	12%	71%	1%	66%	33%	28%	72%	1%						
	PEAK HR FACTOR		0.942			0.607			0.944			0.936		0.968					
	APP/DEPART	968	/	30	17	/	753	1,303	/	1,191	1,153	/	1,467	0					
PM	4:00 PM	113	55	81	12	4	59	10	294	142	96	225	2	1,093	1	0	0	0	1
	4:15 PM	125	46	68	17	9	53	13	313	163	108	238	4	1,157	0	0	0	0	0
	4:30 PM	106	62	83	11	14	65	12	286	153	105	278	0	1,175	0	0	0	0	0
	4:45 PM	129	58	70	9	10	47	10	322	139	99	243	1	1,137	1	0	0	0	1
	5:00 PM	121	35	57	10	13	38	11	278	151	104	220	5	1,043	2	0	0	0	2
	5:15 PM	115	19	42	9	11	26	15	332	159	93	251	2	1,074	0	0	0	0	0
	5:30 PM	124	29	54	14	9	31	9	296	143	101	213	5	1,028	1	0	0	0	1
	5:45 PM	119	23	48	13	7	23	11	328	155	81	194	2	1,004	1	0	0	0	1
	VOLUMES	952	327	503	95	77	342	91	2,449	1,205	787	1,862	21	8,717	6	0	0	0	6
	APPROACH %	53%	18%	28%	18%	15%	67%	2%	65%	32%	29%	70%	1%						
	APP/DEPART	1,788	/	439	514	/	2,075	3,745	/	3,047	2,670	/	3,156	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	473	221	302	49	37	224	45	1,215	597	408	984	7	4,564	2	0	0	0	
	APPROACH %	47%	22%	30%	16%	12%	72%	2%	65%	32%	29%	70%	1%						
	PEAK HR FACTOR		0.967			0.861			0.949			0.913		0.971					
	APP/DEPART	998	/	273	310	/	1,044	1,857	/	1,566	1,399	/	1,681	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T012524

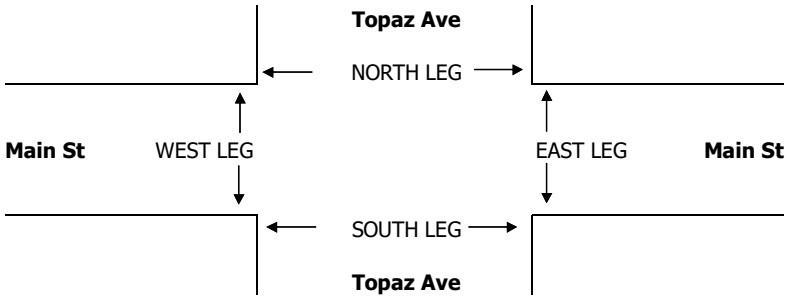
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Hesperia	PROJECT #:	SC4695
Wed, May 15, 24	NORTH & SOUTH:	Topaz Ave	LOCATION #:	7
	EAST & WEST:	Main St	CONTROL:	SIGNAL

NOTES:

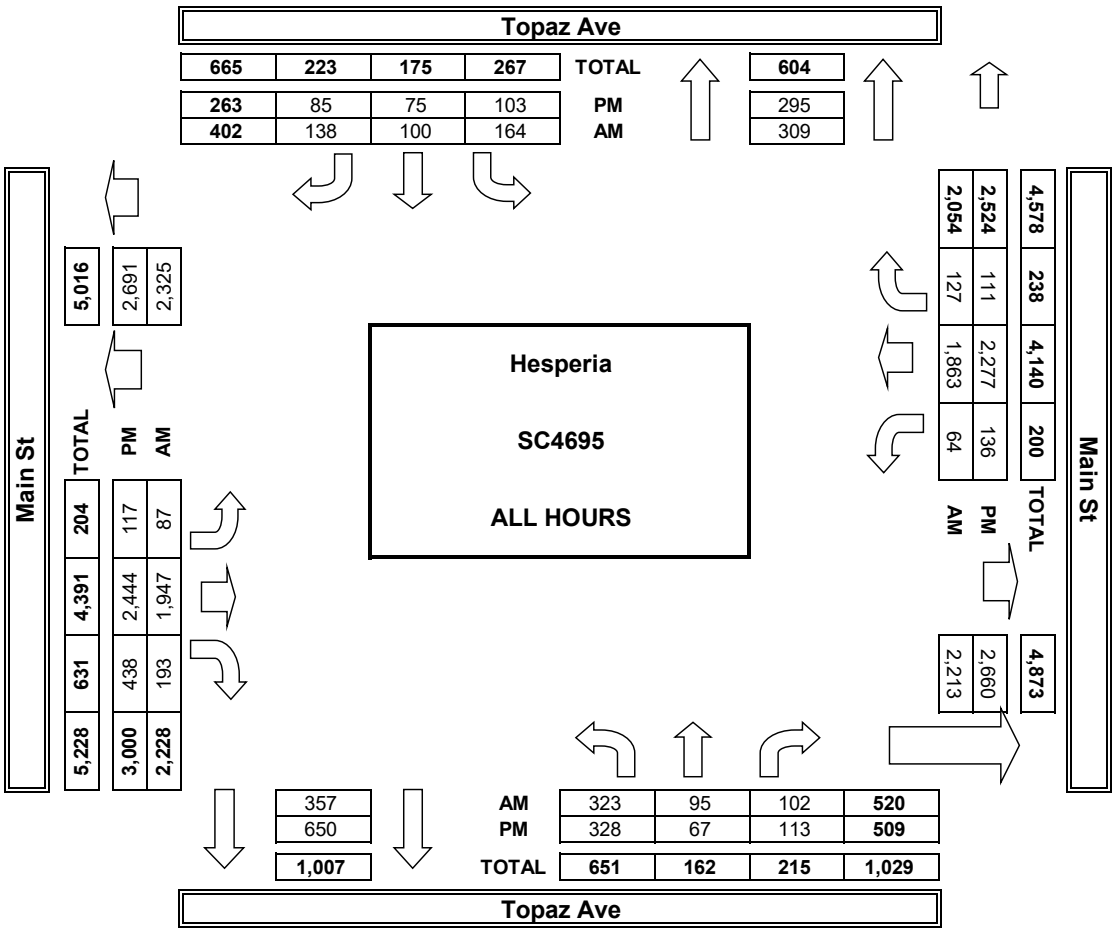
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

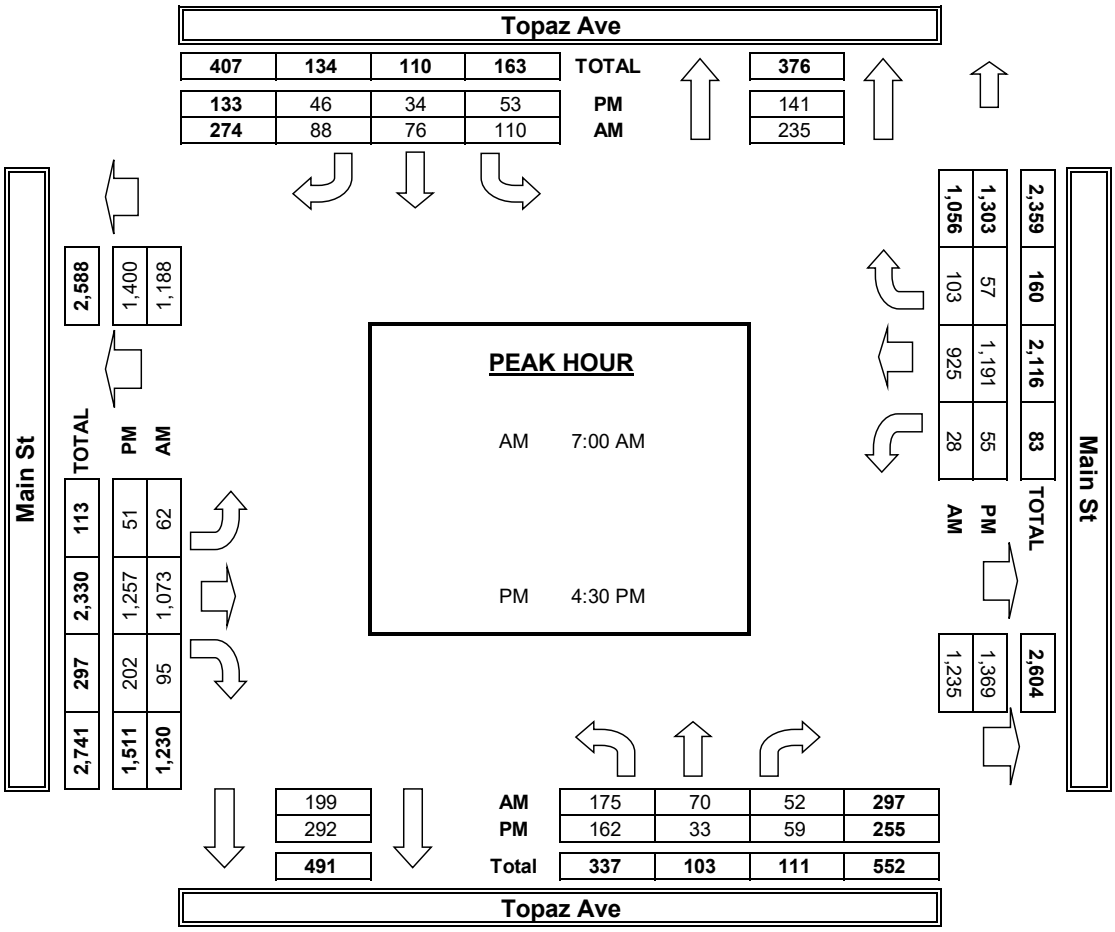
	NORTHBOUND Topaz Ave			SOUTHBOUND Topaz Ave			EASTBOUND Main St			WESTBOUND Main St				U-TURNS				
LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 1	ET 2	ER 1	WL 1	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM 7:00 AM	47	30	12	18	11	22	22	237	25	6	196	22	648	0	0	0	0	0
7:15 AM	35	30	14	34	27	31	21	303	22	3	262	66	848	0	0	0	0	0
7:30 AM	49	7	11	33	27	22	10	266	17	11	236	10	699	0	0	0	0	0
7:45 AM	44	3	15	25	11	13	9	267	31	8	231	5	662	0	0	0	0	0
8:00 AM	30	10	9	15	4	16	6	234	25	14	243	13	619	0	0	0	0	0
8:15 AM	37	6	16	12	6	17	5	206	25	11	261	4	606	0	0	0	0	0
8:30 AM	38	3	14	11	8	5	8	214	24	4	213	3	545	0	0	1	0	1
8:45 AM	43	6	11	16	6	12	6	220	24	7	221	4	576	0	0	0	0	0
VOLUMES	323	95	102	164	100	138	87	1,947	193	64	1,863	127	5,204	0	0	1	0	1
APPROACH %	62%	18%	20%	41%	25%	34%	4%	87%	9%	3%	91%	6%						
APP/DEPART	520	/	309	402	/	357	2,228	/	2,213	2,054	/	2,325	0					
BEGIN PEAK HR		7:00 AM																
VOLUMES	175	70	52	110	76	88	62	1,073	95	28	925	103	2,857	0	0	0	0	
APPROACH %	59%	24%	18%	40%	28%	32%	5%	87%	8%	3%	88%	10%						
PEAK HR FACTOR		0.834			0.745			0.889			0.798		0.842					
APP/DEPART	297	/	235	274	/	199	1,230	/	1,235	1,056	/	1,188	0					
PM 4:00 PM	40	6	12	13	13	12	13	278	52	15	247	12	713	0	0	0	0	0
4:15 PM	44	8	16	11	7	5	17	326	53	22	285	13	807	0	0	0	0	0
4:30 PM	31	10	24	18	9	13	14	348	55	8	262	13	805	1	0	0	0	1
4:45 PM	43	10	9	8	3	15	9	301	46	12	299	16	771	0	0	0	0	0
5:00 PM	47	5	15	13	12	5	16	298	58	14	295	16	794	0	0	0	0	0
5:15 PM	41	8	11	14	10	13	12	310	43	21	335	12	830	0	0	1	0	1
5:30 PM	41	9	14	13	12	13	15	300	64	22	275	17	795	0	0	0	0	0
5:45 PM	41	11	12	13	9	9	21	283	67	22	279	12	779	0	0	0	0	0
VOLUMES	328	67	113	103	75	85	117	2,444	438	136	2,277	111	6,296	1	0	1	0	2
APPROACH %	64%	13%	22%	39%	29%	32%	4%	81%	15%	5%	90%	4%						
APP/DEPART	509	/	295	263	/	650	3,000	/	2,660	2,524	/	2,691	0					
BEGIN PEAK HR		4:30 PM																
VOLUMES	162	33	59	53	34	46	51	1,257	202	55	1,191	57	3,202	1	0	1	0	
APPROACH %	64%	13%	23%	40%	26%	35%	3%	83%	13%	4%	91%	4%						
PEAK HR FACTOR		0.951			0.831			0.906			0.885		0.963					
APP/DEPART	255	/	141	133	/	292	1,511	/	1,369	1,303	/	1,400	0					



AimTD LLC

TURNING MOVEMENT COUNTS





Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Hesperia
N/S: Mesa Linda Street
E/W: Main Street
Weather: Clear

File Name : 01_HES_MeLi_Main AM
Site Code : 241015
Start Date : 11/14/2024
Page No : 1

Groups Printed- Total Volume

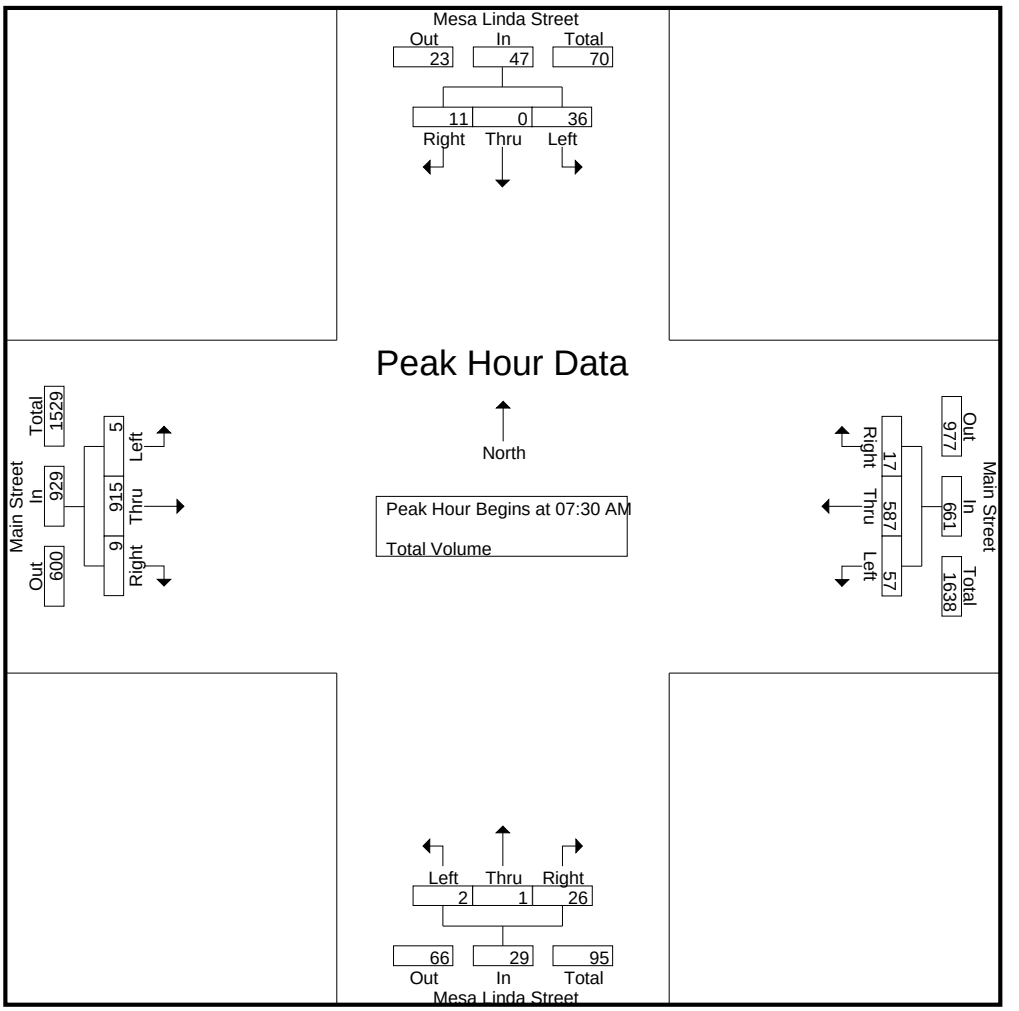
	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	11	0	4	15	8	129	1	138	0	1	4	5	0	196	0	196	354
07:15 AM	15	0	1	16	9	130	2	141	1	0	6	7	3	248	1	252	416
07:30 AM	12	0	3	15	14	182	4	200	0	0	6	6	1	188	1	190	411
07:45 AM	10	0	3	13	19	141	7	167	0	0	5	5	0	232	2	234	419
Total	48	0	11	59	50	582	14	646	1	1	21	23	4	864	4	872	1600
08:00 AM	7	0	3	10	8	121	3	132	0	1	7	8	2	259	4	265	415
08:15 AM	7	0	2	9	16	143	3	162	2	0	8	10	2	236	2	240	421
08:30 AM	9	1	1	11	16	123	5	144	1	0	12	13	0	226	4	230	398
08:45 AM	6	0	1	7	19	135	3	157	4	0	13	17	0	230	7	237	418
Total	29	1	7	37	59	522	14	595	7	1	40	48	4	951	17	972	1652
Grand Total	77	1	18	96	109	1104	28	1241	8	2	61	71	8	1815	21	1844	3252
Apprch %	80.2	1	18.8		8.8	89	2.3		11.3	2.8	85.9		0.4	98.4	1.1		
Total %	2.4	0	0.6	3	3.4	33.9	0.9	38.2	0.2	0.1	1.9	2.2	0.2	55.8	0.6	56.7	

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**12**	0	**3**	**15**	14	**182**	4	**200**	0	0	6	6	1	188	1	190	411
07:45 AM	10	0	3	13	**19**	141	**7**	167	0	0	5	5	0	232	2	234	419
08:00 AM	7	0	3	10	8	121	3	132	0	**1**	7	8	**2**	**259**	**4**	**265**	415
08:15 AM	7	0	2	9	16	143	3	162	**2**	0	**8**	**10**	2	236	2	240	**421**
Total Volume	36	0	11	47	57	587	17	661	2	1	26	29	5	915	9	929	1666
% App. Total	76.6	0	23.4		8.6	88.8	2.6		6.9	3.4	89.7		0.5	98.5	1		
PHF	.750	.000	.917	.783	.750	.806	.607	.826	.250	.250	.813	.725	.625	.883	.563	.876	.989

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Hesperia
N/S: Mesa Linda Street
E/W: Main Street
Weather: Clear

File Name : 01_HES_MeLi_Main AM
Site Code : 241015
Start Date : 11/14/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:30 AM				08:00 AM				08:00 AM			
+0 mins.	11	0	**4**	15	14	**182**	4	**200**	0	**1**	7	8	**2**	**259**	4	**265**
+15 mins.	**15**	0	1	**16**	**19**	141	**7**	167	2	0	8	10	2	236	2	240
+30 mins.	12	0	3	15	8	121	3	132	1	0	12	13	0	226	4	230
+45 mins.	10	0	3	13	16	143	3	162	**4**	0	**13**	**17**	0	230	**7**	237
Total Volume	48	0	11	59	57	587	17	661	7	1	40	48	4	951	17	972
% App. Total	81.4	0	18.6		8.6	88.8	2.6		14.6	2.1	83.3		0.4	97.8	1.7	
PHF	.800	.000	.688	.922	.750	.806	.607	.826	.438	.250	.769	.706	.500	.918	.607	.917

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Hesperia
N/S: Mesa Linda Street
E/W: Main Street
Weather: Clear

File Name : 01_HES_MeLi_Main PM
Site Code : 241015
Start Date : 11/14/2024
Page No : 1

Groups Printed- Total Volume

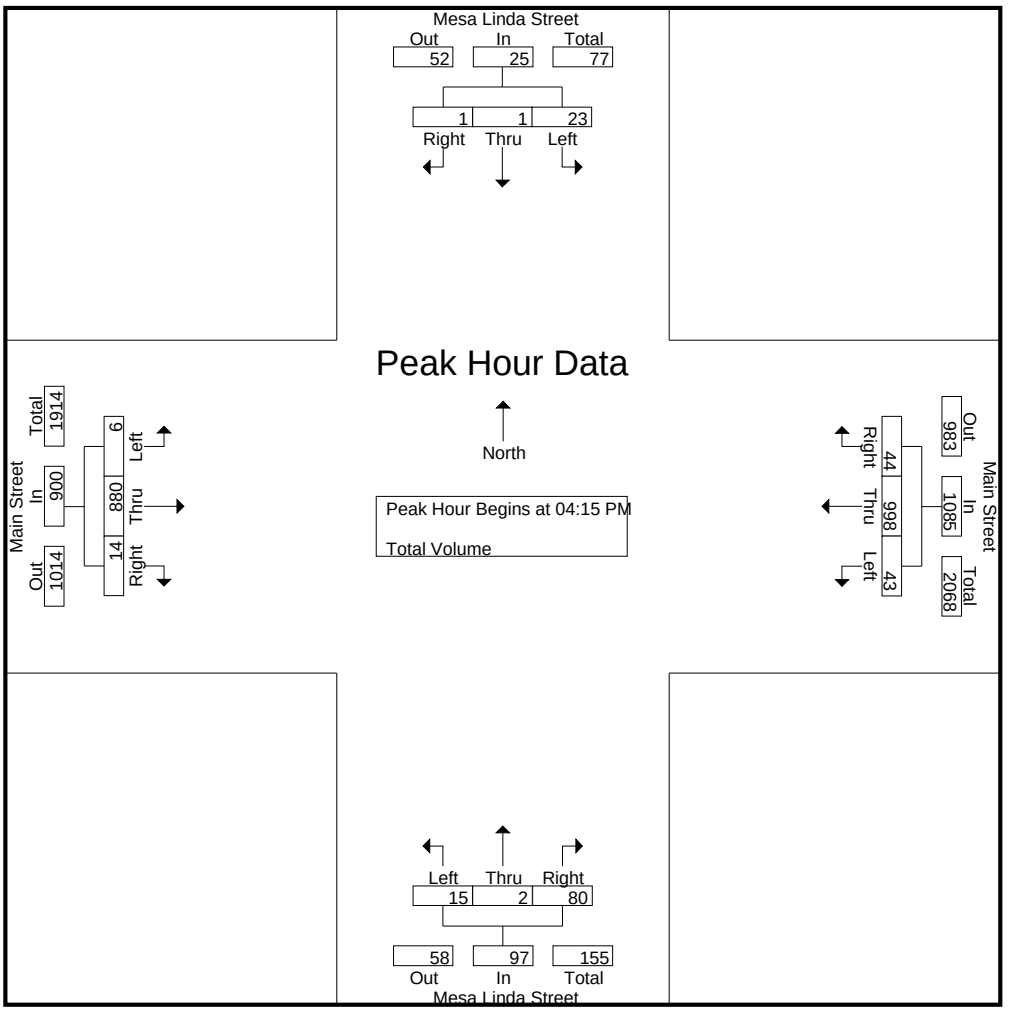
	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	2	0	0	2	13	250	8	271	8	1	23	32	0	183	2	185	490
04:15 PM	2	0	0	2	12	238	11	261	3	0	16	19	0	254	5	259	541
04:30 PM	9	0	1	10	10	266	13	289	4	0	23	27	1	212	4	217	543
04:45 PM	7	0	0	7	10	237	5	252	6	0	22	28	4	213	3	220	507
Total	20	0	1	21	45	991	37	1073	21	1	84	106	5	862	14	881	2081
05:00 PM	5	1	0	6	11	257	15	283	2	2	19	23	1	201	2	204	516
05:15 PM	4	0	1	5	13	231	9	253	7	2	26	35	3	184	0	187	480
05:30 PM	2	0	0	2	16	203	9	228	7	1	11	19	2	217	3	222	471
05:45 PM	7	0	1	8	10	246	14	270	2	3	24	29	2	144	1	147	454
Total	18	1	2	21	50	937	47	1034	18	8	80	106	8	746	6	760	1921
Grand Total	38	1	3	42	95	1928	84	2107	39	9	164	212	13	1608	20	1641	4002
Apprch %	90.5	2.4	7.1		4.5	91.5	4		18.4	4.2	77.4		0.8	98	1.2		
Total %	0.9	0	0.1	1	2.4	48.2	2.1	52.6	1	0.2	4.1	5.3	0.3	40.2	0.5	41	

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	2	0	0	2	**12**	238	11	261	3	0	16	19	0	**254**	**5**	**259**	541
04:30 PM	**9**	0	**1**	**10**	10	**266**	13	**289**	4	0	**23**	27	1	212	4	217	**543**
04:45 PM	7	0	0	7	10	237	5	252	**6**	0	22	**28**	**4**	213	3	220	507
05:00 PM	5	**1**	0	6	11	257	**15**	283	2	**2**	19	23	1	201	2	204	516
Total Volume	23	1	1	25	43	998	44	1085	15	2	80	97	6	880	14	900	2107
% App. Total	92	4	4		4	92	4.1		15.5	2.1	82.5		0.7	97.8	1.6		
PHF	.639	.250	.250	.625	.896	.938	.733	.939	.625	.250	.870	.866	.375	.866	.700	.869	.970

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City of Hesperia
N/S: Mesa Linda Street
E/W: Main Street
Weather: Clear

File Name : 01_HES_MeLi_Main PM
Site Code : 241015
Start Date : 11/14/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:15 PM				04:30 PM				04:15 PM			
+0 mins.	**9**	0	**1**	**10**	**12**	238	11	261	4	0	23	27	0	**254**	**5**	**259**
+15 mins.	7	0	0	7	10	**266**	13	**289**	6	0	22	28	1	212	4	217
+30 mins.	5	**1**	0	6	10	237	5	252	2	**2**	19	23	**4**	213	3	220
+45 mins.	4	0	1	5	11	257	**15**	283	**7**	2	**26**	**35**	1	201	2	204
Total Volume	25	1	2	28	43	998	44	1085	19	4	90	113	6	880	14	900
% App. Total	89.3	3.6	7.1		4	92	4.1		16.8	3.5	79.6		0.7	97.8	1.6	
PHF	.694	.250	.500	.700	.896	.938	.733	.939	.679	.500	.865	.807	.375	.866	.700	.869

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City of Hesperia
N/S: Cataba Road
E/W: Main Street
Weather: Clear

File Name : 02_HES_Cat_Main AM
Site Code : 241015
Start Date : 11/14/2024
Page No : 1

Groups Printed- Total Volume

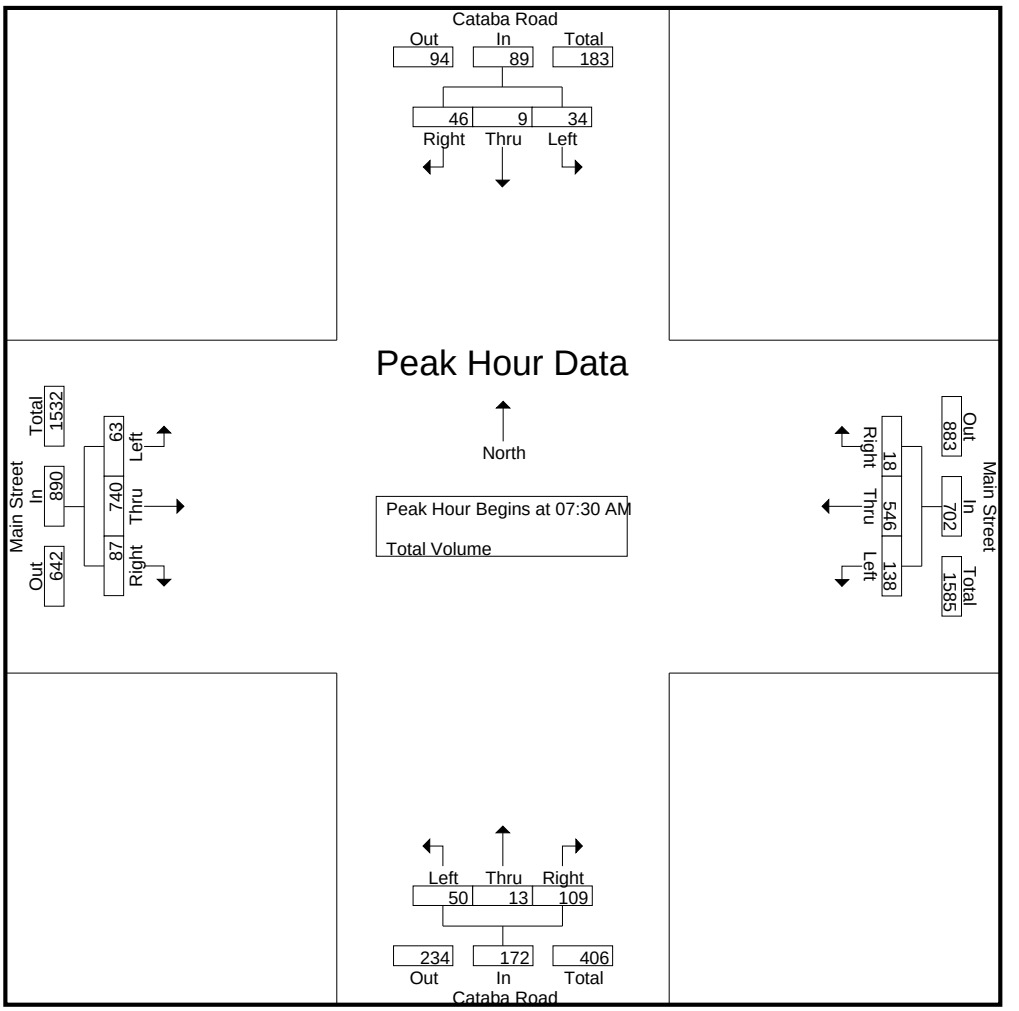
	Cataba Road Southbound				Main Street Westbound				Cataba Road Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	6	0	8	14	14	116	0	130	3	0	14	17	20	180	11	211	372
07:15 AM	14	3	13	30	31	140	1	172	3	2	17	22	20	197	12	229	453
07:30 AM	5	1	12	18	33	179	7	219	10	5	20	35	18	173	13	204	476
07:45 AM	11	1	11	23	37	140	6	183	11	1	28	40	14	183	20	217	463
Total	36	5	44	85	115	575	14	704	27	8	79	114	72	733	56	861	1764
08:00 AM	8	2	13	23	26	90	2	118	14	3	31	48	21	197	23	241	430
08:15 AM	10	5	10	25	42	137	3	182	15	4	30	49	10	187	31	228	484
08:30 AM	9	11	11	31	24	115	3	142	17	5	37	59	29	162	23	214	446
08:45 AM	14	5	10	29	25	131	3	159	14	8	33	55	25	202	22	249	492
Total	41	23	44	108	117	473	11	601	60	20	131	211	85	748	99	932	1852
Grand Total	77	28	88	193	232	1048	25	1305	87	28	210	325	157	1481	155	1793	3616
Apprch %	39.9	14.5	45.6		17.8	80.3	1.9		26.8	8.6	64.6		8.8	82.6	8.6		
Total %	2.1	0.8	2.4	5.3	6.4	29	0.7	36.1	2.4	0.8	5.8	9	4.3	41	4.3	49.6	

	Cataba Road Southbound				Main Street Westbound				Cataba Road Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	5	1	12	18	33	**179**	**7**	**219**	10	**5**	20	35	18	173	13	204	476
07:45 AM	**11**	1	11	23	37	140	6	183	11	1	28	40	14	183	20	217	463
08:00 AM	8	2	**13**	23	26	90	2	118	14	3	**31**	48	**21**	**197**	23	**241**	430
08:15 AM	10	**5**	10	**25**	**42**	137	3	182	**15**	4	30	**49**	10	187	**31**	228	**484**
Total Volume	34	9	46	89	138	546	18	702	50	13	109	172	63	740	87	890	1853
% App. Total	38.2	10.1	51.7		19.7	77.8	2.6		29.1	7.6	63.4		7.1	83.1	9.8		
PHF	.773	.450	.885	.890	.821	.763	.643	.801	.833	.650	.879	.878	.750	.939	.702	.923	.957

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City of Hesperia
N/S: Cataba Road
E/W: Main Street
Weather: Clear

File Name : 02_HES_Cat_Main AM
Site Code : 241015
Start Date : 11/14/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:00 AM				08:00 AM				08:00 AM			
+0 mins.	8	2	**13**	23	14	116	0	130	14	3	31	48	21	197	23	241
+15 mins.	10	5	10	25	31	140	1	172	15	4	30	49	10	187	**31**	228
+30 mins.	9	**11**	11	**31**	33	**179**	**7**	**219**	**17**	5	**37**	**59**	**29**	162	23	214
+45 mins.	**14**	5	10	29	**37**	140	6	183	14	**8**	33	55	25	**202**	22	**249**
Total Volume	41	23	44	108	115	575	14	704	60	20	131	211	85	748	99	932
% App. Total	38	21.3	40.7		16.3	81.7	2		28.4	9.5	62.1		9.1	80.3	10.6	
PHF	.732	.523	.846	.871	.777	.803	.500	.804	.882	.625	.885	.894	.733	.926	.798	.936

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City of Hesperia
N/S: Cataba Road
E/W: Main Street
Weather: Clear

File Name : 02_HES_Cat_Main PM
Site Code : 241015
Start Date : 11/14/2024
Page No : 1

Groups Printed- Total Volume

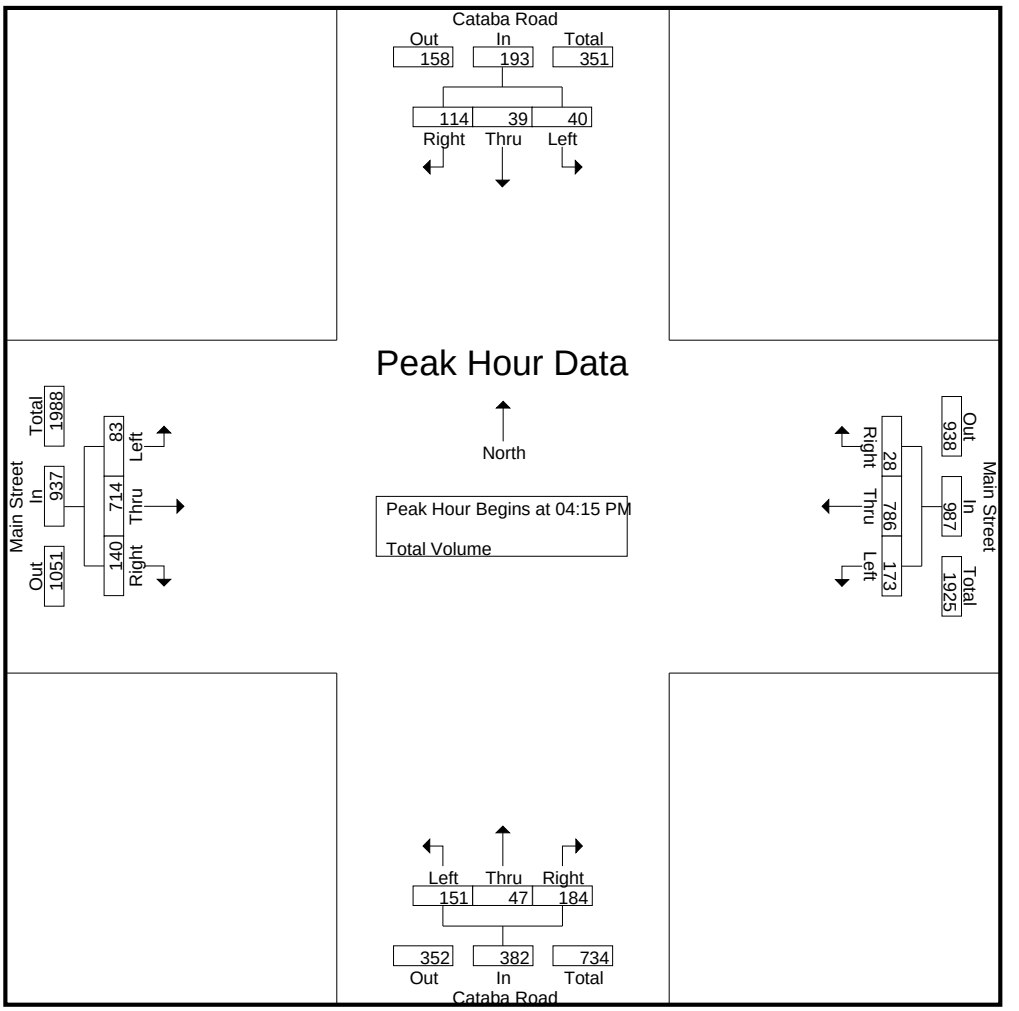
	Cataba Road Southbound				Main Street Westbound				Cataba Road Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	8	7	20	35	44	180	6	230	51	9	44	104	24	159	36	219	588
04:15 PM	17	8	29	54	36	199	7	242	34	8	44	86	24	194	31	249	631
04:30 PM	11	10	29	50	48	206	6	260	44	15	60	119	12	183	40	235	664
04:45 PM	2	11	32	45	38	170	7	215	38	17	42	97	23	171	35	229	586
Total	38	36	110	184	166	755	26	947	167	49	190	406	83	707	142	932	2469
05:00 PM	10	10	24	44	51	211	8	270	35	7	38	80	24	166	34	224	618
05:15 PM	12	8	25	45	52	182	4	238	34	12	37	83	32	173	31	236	602
05:30 PM	10	17	26	53	43	171	9	223	43	22	40	105	16	165	26	207	588
05:45 PM	14	14	26	54	44	174	8	226	49	12	40	101	29	127	22	178	559
Total	46	49	101	196	190	738	29	957	161	53	155	369	101	631	113	845	2367
Grand Total	84	85	211	380	356	1493	55	1904	328	102	345	775	184	1338	255	1777	4836
Apprch %	22.1	22.4	55.5		18.7	78.4	2.9		42.3	13.2	44.5		10.4	75.3	14.4		
Total %	1.7	1.8	4.4	7.9	7.4	30.9	1.1	39.4	6.8	2.1	7.1	16	3.8	27.7	5.3	36.7	

	Cataba Road Southbound				Main Street Westbound				Cataba Road Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**17**	8	29	**54**	36	199	7	242	34	8	44	86	**24**	**194**	31	**249**	631
04:30 PM	11	10	29	50	48	206	6	260	**44**	15	**60**	**119**	12	183	**40**	235	**664**
04:45 PM	2	**11**	**32**	45	38	170	7	215	38	**17**	42	97	23	171	35	229	586
05:00 PM	10	10	24	44	**51**	**211**	**8**	**270**	35	7	38	80	24	166	34	224	618
Total Volume	40	39	114	193	173	786	28	987	151	47	184	382	83	714	140	937	2499
% App. Total	20.7	20.2	59.1		17.5	79.6	2.8		39.5	12.3	48.2		8.9	76.2	14.9		
PHF	.588	.886	.891	.894	.848	.931	.875	.914	.858	.691	.767	.803	.865	.920	.875	.941	.941

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City of Hesperia
N/S: Cataba Road
E/W: Main Street
Weather: Clear

File Name : 02_HES_Cat_Main PM
Site Code : 241015
Start Date : 11/14/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:15 PM				04:00 PM				04:15 PM			
+0 mins.	10	10	24	44	36	199	7	242	**51**	9	44	104	**24**	**194**	31	**249**
+15 mins.	12	8	25	45	48	206	6	260	34	8	44	86	12	183	**40**	235
+30 mins.	10	**17**	**26**	53	38	170	7	215	44	15	**60**	**119**	23	171	35	229
+45 mins.	**14**	14	26	**54**	**51**	**211**	**8**	**270**	38	**17**	42	97	24	166	34	224
Total Volume	46	49	101	196	173	786	28	987	167	49	190	406	83	714	140	937
% App. Total	23.5	25	51.5		17.5	79.6	2.8		41.1	12.1	46.8		8.9	76.2	14.9	
PHF	.821	.721	.971	.907	.848	.931	.875	.914	.819	.721	.792	.853	.865	.920	.875	.941

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City of Hesperia
N/S: Mariposa Road
E/W: Main Street
Weather: Clear

File Name : 03_HES_Mari_Main AM
Site Code : 241015
Start Date : 11/14/2024
Page No : 1

Groups Printed- Total Volume

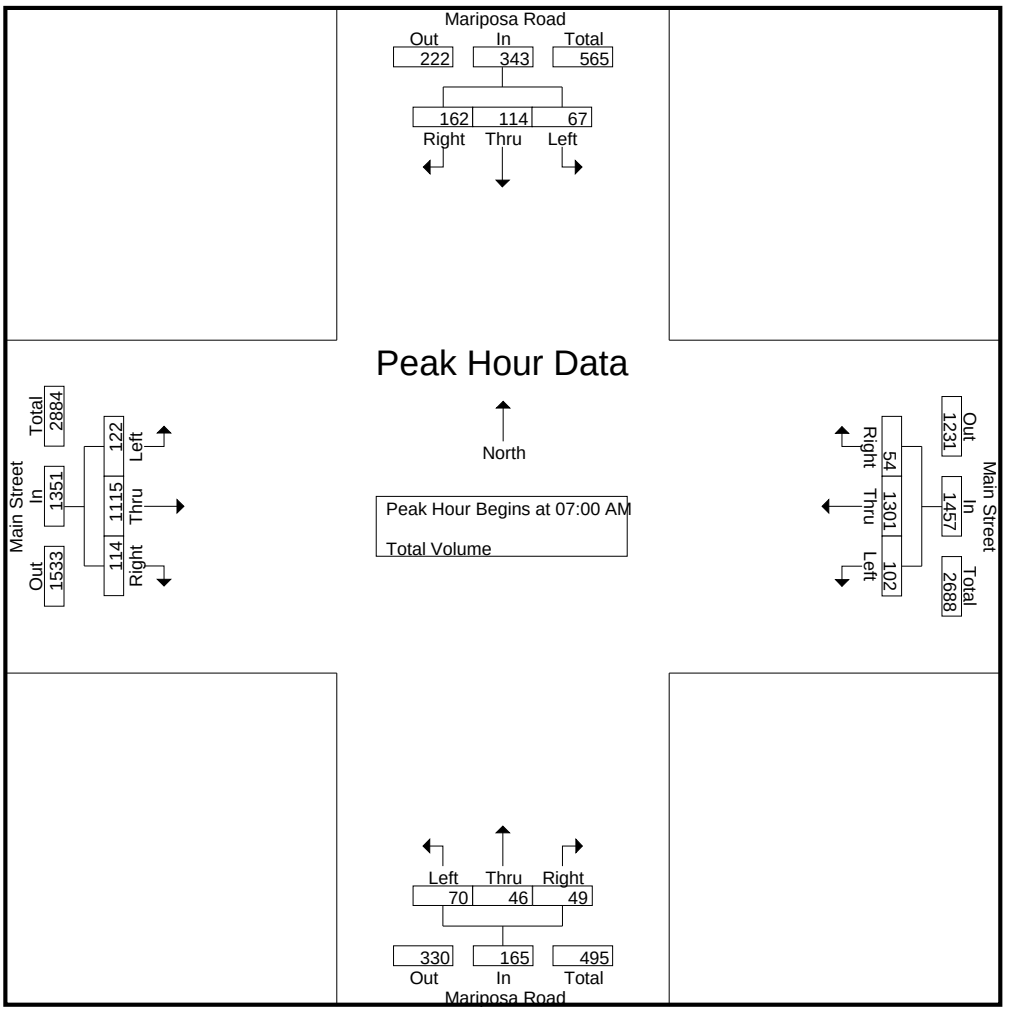
	Mariposa Road Southbound				Main Street Westbound				Mariposa Road Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	18	51	36	105	30	273	15	318	19	8	9	36	20	253	46	319	778
07:15 AM	11	30	38	79	27	317	7	351	18	15	17	50	36	298	30	364	844
07:30 AM	13	18	45	76	25	385	19	429	18	17	10	45	32	251	19	302	852
07:45 AM	25	15	43	83	20	326	13	359	15	6	13	34	34	313	19	366	842
Total	67	114	162	343	102	1301	54	1457	70	46	49	165	122	1115	114	1351	3316
08:00 AM	21	14	29	64	10	244	6	260	16	10	7	33	27	279	12	318	675
08:15 AM	17	22	46	85	23	341	19	383	15	5	11	31	23	279	16	318	817
08:30 AM	22	17	33	72	17	261	12	290	11	12	9	32	23	286	16	325	719
08:45 AM	18	14	24	56	15	257	20	292	19	6	7	32	28	277	16	321	701
Total	78	67	132	277	65	1103	57	1225	61	33	34	128	101	1121	60	1282	2912
Grand Total	145	181	294	620	167	2404	111	2682	131	79	83	293	223	2236	174	2633	6228
Apprch %	23.4	29.2	47.4		6.2	89.6	4.1		44.7	27	28.3		8.5	84.9	6.6		
Total %	2.3	2.9	4.7	10	2.7	38.6	1.8	43.1	2.1	1.3	1.3	4.7	3.6	35.9	2.8	42.3	

	Mariposa Road Southbound				Main Street Westbound				Mariposa Road Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	18	**51**	36	**105**	**30**	273	15	318	**19**	8	9	36	20	253	**46**	319	778
07:15 AM	11	30	38	79	27	317	7	351	18	15	**17**	**50**	**36**	298	30	364	844
07:30 AM	13	18	**45**	76	25	**385**	**19**	**429**	18	**17**	10	45	32	251	19	302	**852**
07:45 AM	**25**	15	43	83	20	326	13	359	15	6	13	34	34	**313**	19	**366**	842
Total Volume	67	114	162	343	102	1301	54	1457	70	46	49	165	122	1115	114	1351	3316
% App. Total	19.5	33.2	47.2		7	89.3	3.7		42.4	27.9	29.7		9	82.5	8.4		
PHF	.670	.559	.900	.817	.850	.845	.711	.849	.921	.676	.721	.825	.847	.891	.620	.923	.973

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City of Hesperia
N/S: Mariposa Road
E/W: Main Street
Weather: Clear

File Name : 03_HES_Mari_Main AM
Site Code : 241015
Start Date : 11/14/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	18	**51**	36	**105**	**30**	273	15	318	**19**	8	9	36	20	253	**46**	319
+15 mins.	11	30	38	79	27	317	7	351	18	15	**17**	**50**	**36**	298	30	364
+30 mins.	13	18	**45**	76	25	**385**	**19**	**429**	18	**17**	10	45	32	251	19	302
+45 mins.	**25**	15	43	83	20	326	13	359	15	6	13	34	34	**313**	19	**366**
Total Volume	67	114	162	343	102	1301	54	1457	70	46	49	165	122	1115	114	1351
% App. Total	19.5	33.2	47.2		7	89.3	3.7		42.4	27.9	29.7		9	82.5	8.4	
PHF	.670	.559	.900	.817	.850	.845	.711	.849	.921	.676	.721	.825	.847	.891	.620	.923

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City of Hesperia
N/S: Mariposa Road
E/W: Main Street
Weather: Clear

File Name : 03_HES_Mari_Main PM
Site Code : 241015
Start Date : 11/14/2024
Page No : 1

Groups Printed- Total Volume

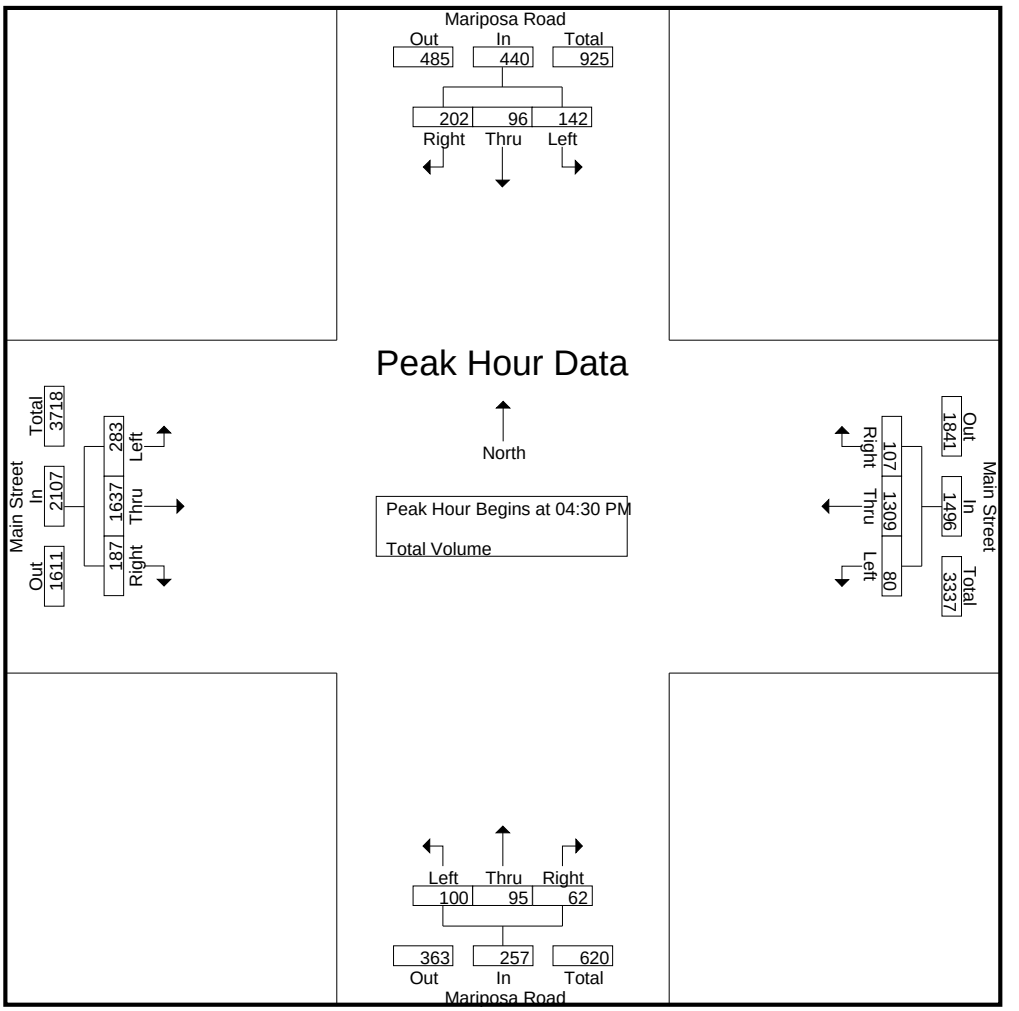
	Mariposa Road Southbound				Main Street Westbound				Mariposa Road Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	46	14	45	105	14	357	25	396	27	25	12	64	74	383	20	477	1042
04:15 PM	35	17	44	96	17	337	27	381	35	8	16	59	73	411	43	527	1063
04:30 PM	24	22	34	80	14	349	35	398	27	23	16	66	78	449	35	562	1106
04:45 PM	42	27	46	115	18	312	19	349	23	27	16	66	72	420	38	530	1060
Total	147	80	169	396	63	1355	106	1524	112	83	60	255	297	1663	136	2096	4271
05:00 PM	32	20	62	114	29	319	28	376	26	21	14	61	70	378	55	503	1054
05:15 PM	44	27	60	131	19	329	25	373	24	24	16	64	63	390	59	512	1080
05:30 PM	36	34	52	122	20	313	26	359	23	27	17	67	71	382	41	494	1042
05:45 PM	43	29	48	120	25	289	26	340	39	20	11	70	64	345	59	468	998
Total	155	110	222	487	93	1250	105	1448	112	92	58	262	268	1495	214	1977	4174
Grand Total	302	190	391	883	156	2605	211	2972	224	175	118	517	565	3158	350	4073	8445
Apprch %	34.2	21.5	44.3		5.2	87.7	7.1		43.3	33.8	22.8		13.9	77.5	8.6		
Total %	3.6	2.2	4.6	10.5	1.8	30.8	2.5	35.2	2.7	2.1	1.4	6.1	6.7	37.4	4.1	48.2	

	Mariposa Road Southbound				Main Street Westbound				Mariposa Road Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	24	22	34	80	14	**349**	**35**	**398**	**27**	23	**16**	**66**	**78**	**449**	35	**562**	**1106**
04:45 PM	42	**27**	46	115	18	312	19	349	23	**27**	16	66	72	420	38	530	1060
05:00 PM	32	20	**62**	114	**29**	319	28	376	26	21	14	61	70	378	55	503	1054
05:15 PM	**44**	27	60	**131**	19	329	25	373	24	24	16	64	63	390	**59**	512	1080
Total Volume	142	96	202	440	80	1309	107	1496	100	95	62	257	283	1637	187	2107	4300
% App. Total	32.3	21.8	45.9		5.3	87.5	7.2		38.9	37	24.1		13.4	77.7	8.9		
PHF	.807	.889	.815	.840	.690	.938	.764	.940	.926	.880	.969	.973	.907	.911	.792	.937	.972

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City of Hesperia
N/S: Mariposa Road
E/W: Main Street
Weather: Clear

File Name : 03_HES_Mari_Main PM
Site Code : 241015
Start Date : 11/14/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				05:00 PM				04:15 PM			
+0 mins.	32	20	**62**	114	14	**357**	25	396	26	21	14	61	73	411	43	527
+15 mins.	**44**	27	60	**131**	17	337	27	381	24	24	16	64	**78**	**449**	35	**562**
+30 mins.	36	**34**	52	122	14	349	**35**	**398**	23	**27**	**17**	67	72	420	38	530
+45 mins.	43	29	48	120	**18**	312	19	349	**39**	20	11	**70**	70	378	**55**	503
Total Volume	155	110	222	487	63	1355	106	1524	112	92	58	262	293	1658	171	2122
% App. Total	31.8	22.6	45.6		4.1	88.9	7		42.7	35.1	22.1		13.8	78.1	8.1	
PHF	.881	.809	.895	.929	.875	.949	.757	.957	.718	.852	.853	.936	.939	.923	.777	.944

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City of Hesperia
N/S: Mountain Vista Avenue
E/W: Main Street
Weather: Clear

File Name : 04_HES_Mtn V_Main AM
Site Code : 241015
Start Date : 11/14/2024
Page No : 1

Groups Printed- Total Volume

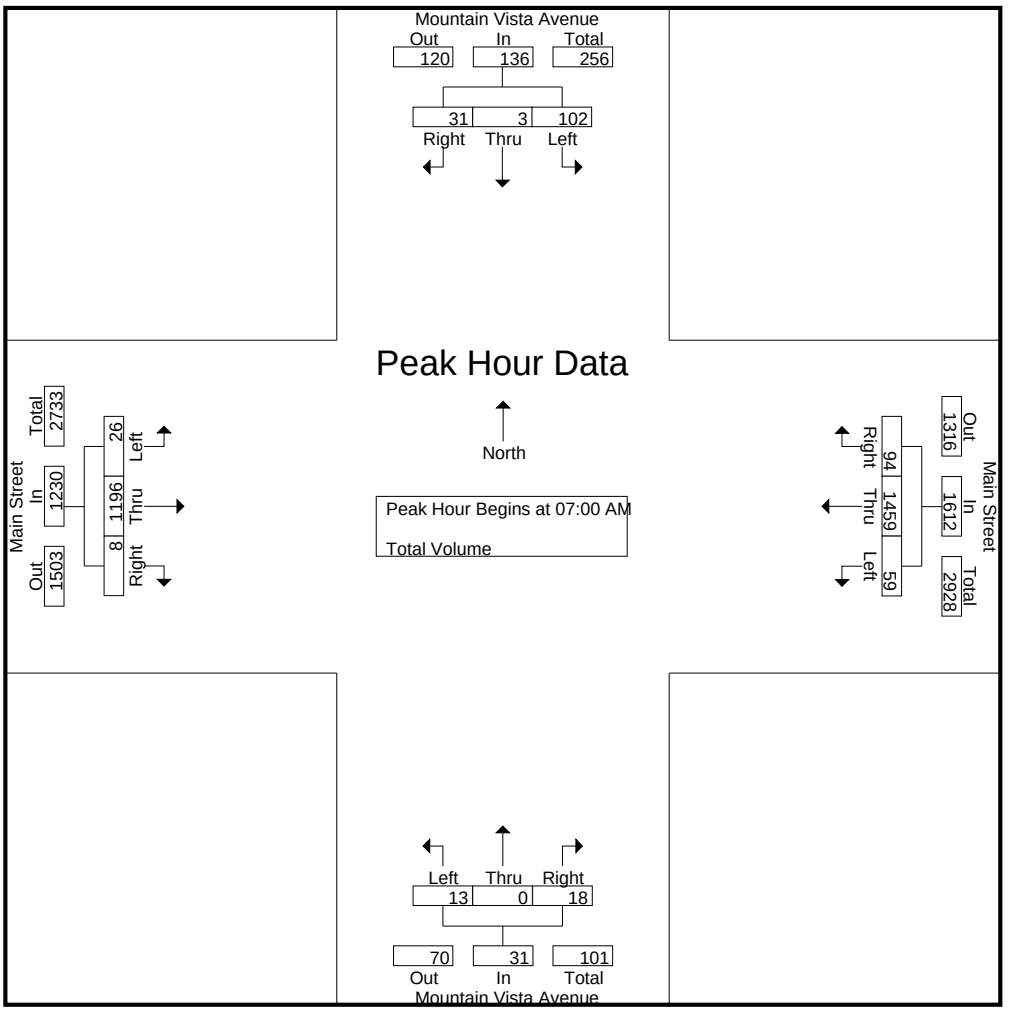
	Mountain Vista Avenue Southbound				Main Street Westbound				Mountain Vista Avenue Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	28	1	1	30	24	316	10	350	7	0	4	11	4	273	2	279	670
07:15 AM	18	0	7	25	14	387	25	426	5	0	4	9	6	322	2	330	790
07:30 AM	18	1	19	38	10	409	36	455	1	0	5	6	7	270	2	279	778
07:45 AM	38	1	4	43	11	347	23	381	0	0	5	5	9	331	2	342	771
Total	102	3	31	136	59	1459	94	1612	13	0	18	31	26	1196	8	1230	3009
08:00 AM	23	0	13	36	19	263	21	303	1	0	1	2	9	291	8	308	649
08:15 AM	20	0	10	30	16	356	20	392	8	0	5	13	11	274	5	290	725
08:30 AM	24	2	4	30	21	276	14	311	5	1	10	16	7	306	3	316	673
08:45 AM	19	0	4	23	17	293	16	326	5	1	7	13	15	293	1	309	671
Total	86	2	31	119	73	1188	71	1332	19	2	23	44	42	1164	17	1223	2718
Grand Total	188	5	62	255	132	2647	165	2944	32	2	41	75	68	2360	25	2453	5727
Apprch %	73.7	2	24.3		4.5	89.9	5.6		42.7	2.7	54.7		2.8	96.2	1		
Total %	3.3	0.1	1.1	4.5	2.3	46.2	2.9	51.4	0.6	0	0.7	1.3	1.2	41.2	0.4	42.8	

	Mountain Vista Avenue Southbound				Main Street Westbound				Mountain Vista Avenue Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	28	**1**	1	30	**24**	316	10	350	**7**	0	4	**11**	4	273	**2**	279	670
07:15 AM	18	0	7	25	14	387	25	426	5	0	4	9	6	322	2	330	**790**
07:30 AM	18	1	**19**	38	10	**409**	**36**	**455**	1	0	**5**	6	7	270	2	279	778
07:45 AM	**38**	1	4	**43**	11	347	23	381	0	0	5	5	**9**	**331**	2	**342**	771
Total Volume	102	3	31	136	59	1459	94	1612	13	0	18	31	26	1196	8	1230	3009
% App. Total	75	2.2	22.8		3.7	90.5	5.8		41.9	0	58.1		2.1	97.2	0.7		
PHF	.671	.750	.408	.791	.615	.892	.653	.886	.464	.000	.900	.705	.722	.903	1.00	.899	.952

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(951) 268-6268

City of Hesperia
N/S: Mountain Vista Avenue
E/W: Main Street
Weather: Clear

File Name : 04_HES_Mtn V_Main AM
Site Code : 241015
Start Date : 11/14/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:00 AM				08:00 AM				07:15 AM			
+0 mins.	18	**1**	**19**	38	**24**	316	10	350	1	0	1	2	6	322	2	330
+15 mins.	**38**	1	4	**43**	14	387	25	426	**8**	0	5	13	7	270	2	279
+30 mins.	23	0	13	36	10	**409**	**36**	**455**	5	**1**	**10**	**16**	**9**	**331**	2	**342**
+45 mins.	20	0	10	30	11	347	23	381	5	1	7	13	9	291	**8**	308
Total Volume	99	2	46	147	59	1459	94	1612	19	2	23	44	31	1214	14	1259
% App. Total	67.3	1.4	31.3		3.7	90.5	5.8		43.2	4.5	52.3		2.5	96.4	1.1	
PHF	.651	.500	.605	.855	.615	.892	.653	.886	.594	.500	.575	.688	.861	.917	.438	.920

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City of Hesperia
N/S: Mountain Vista Avenue
E/W: Main Street
Weather: Clear

File Name : 04_HES_Mtn V_Main PM
Site Code : 241015
Start Date : 11/14/2024
Page No : 1

Groups Printed- Total Volume

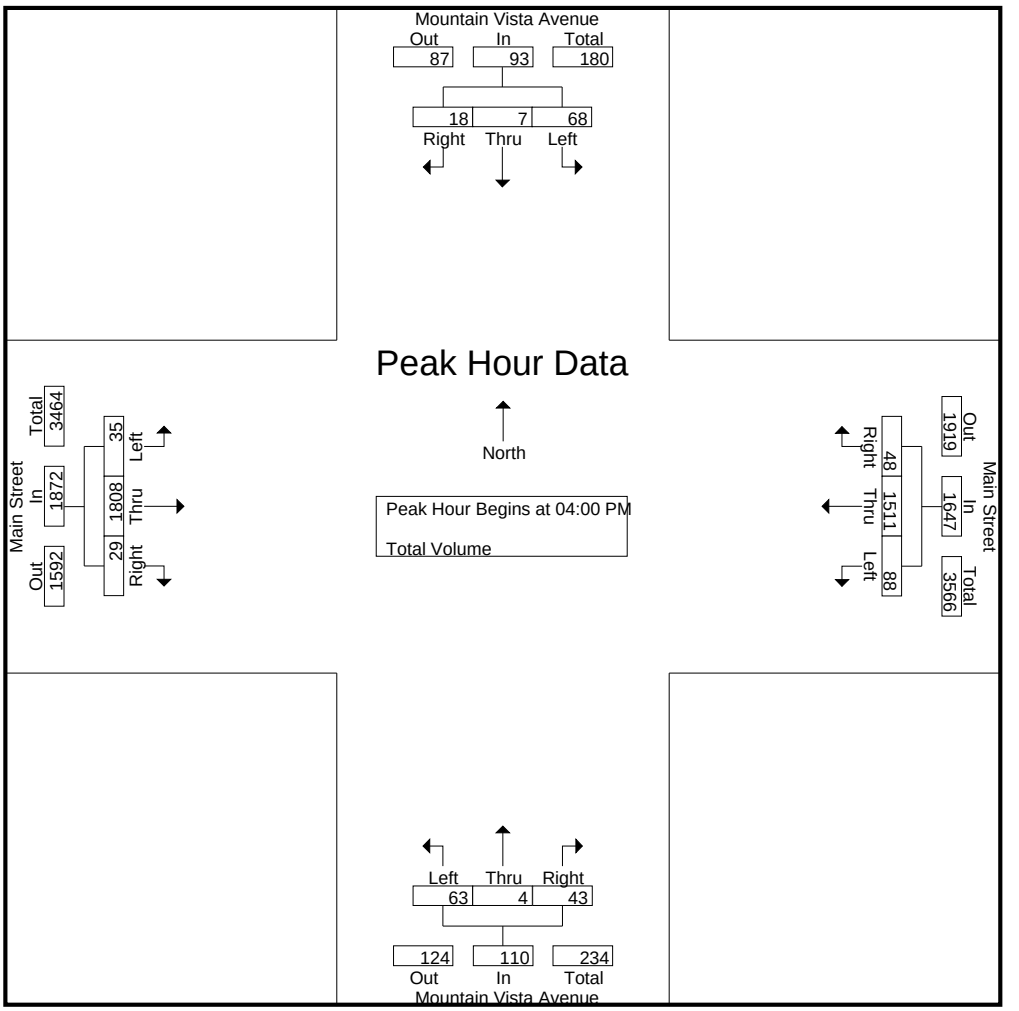
	Mountain Vista Avenue Southbound				Main Street Westbound				Mountain Vista Avenue Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	20	3	4	27	19	388	12	419	16	1	13	30	9	420	12	441	917
04:15 PM	19	1	5	25	21	377	11	409	10	0	12	22	5	438	5	448	904
04:30 PM	12	3	5	20	23	369	19	411	21	2	9	32	11	476	8	495	958
04:45 PM	17	0	4	21	25	377	6	408	16	1	9	26	10	474	4	488	943
Total	68	7	18	93	88	1511	48	1647	63	4	43	110	35	1808	29	1872	3722
05:00 PM	15	0	2	17	22	344	4	370	22	0	5	27	3	386	4	393	807
05:15 PM	11	1	3	15	37	374	9	420	21	0	13	34	10	416	4	430	899
05:30 PM	7	3	5	15	24	387	8	419	10	1	13	24	6	413	8	427	885
05:45 PM	13	1	2	16	25	384	12	421	10	0	9	19	6	414	5	425	881
Total	46	5	12	63	108	1489	33	1630	63	1	40	104	25	1629	21	1675	3472
Grand Total	114	12	30	156	196	3000	81	3277	126	5	83	214	60	3437	50	3547	7194
Apprch %	73.1	7.7	19.2		6	91.5	2.5		58.9	2.3	38.8		1.7	96.9	1.4		
Total %	1.6	0.2	0.4	2.2	2.7	41.7	1.1	45.6	1.8	0.1	1.2	3	0.8	47.8	0.7	49.3	

	Mountain Vista Avenue Southbound				Main Street Westbound				Mountain Vista Avenue Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**20**	**3**	4	**27**	19	**388**	12	**419**	16	1	**13**	30	9	420	**12**	441	917
04:15 PM	19	1	**5**	25	21	377	11	409	10	0	12	22	5	438	5	448	904
04:30 PM	12	3	5	20	23	369	**19**	411	**21**	**2**	9	**32**	**11**	**476**	8	**495**	**958**
04:45 PM	17	0	4	21	**25**	377	6	408	16	1	9	26	10	474	4	488	943
Total Volume	68	7	18	93	88	1511	48	1647	63	4	43	110	35	1808	29	1872	3722
% App. Total	73.1	7.5	19.4		5.3	91.7	2.9		57.3	3.6	39.1		1.9	96.6	1.5		
PHF	.850	.583	.900	.861	.880	.974	.632	.983	.750	.500	.827	.859	.795	.950	.604	.945	.971

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City of Hesperia
N/S: Mountain Vista Avenue
E/W: Main Street
Weather: Clear

File Name : 04_HES_Mtn V_Main PM
Site Code : 241015
Start Date : 11/14/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:30 PM				04:00 PM			
+0 mins.	**20**	**3**	4	**27**	19	**388**	12	**419**	21	**2**	9	32	9	420	**12**	441
+15 mins.	19	1	**5**	25	21	377	11	409	16	1	9	26	5	438	5	448
+30 mins.	12	3	5	20	23	369	**19**	411	**22**	0	5	27	**11**	**476**	8	**495**
+45 mins.	17	0	4	21	**25**	377	6	408	21	0	**13**	**34**	10	474	4	488
Total Volume	68	7	18	93	88	1511	48	1647	80	3	36	119	35	1808	29	1872
% App. Total	73.1	7.5	19.4		5.3	91.7	2.9		67.2	2.5	30.3		1.9	96.6	1.5	
PHF	.850	.583	.900	.861	.880	.974	.632	.983	.909	.375	.692	.875	.795	.950	.604	.945

APPENDIX C-2

TRAFFIC COUNT DATA
SHEETS –
FOR TRAFFIC SIGNAL WARRANT ANALYSIS

Counts Unlimited, Inc.
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City of Hesperia
N/S: Key Pointe Avenue
E/W: Amargosa Road
Weather: Clear

File Name : HESKPAMAM
Site Code : 10824773
Start Date : 9/5/2024

Groups Printed- Total Volume

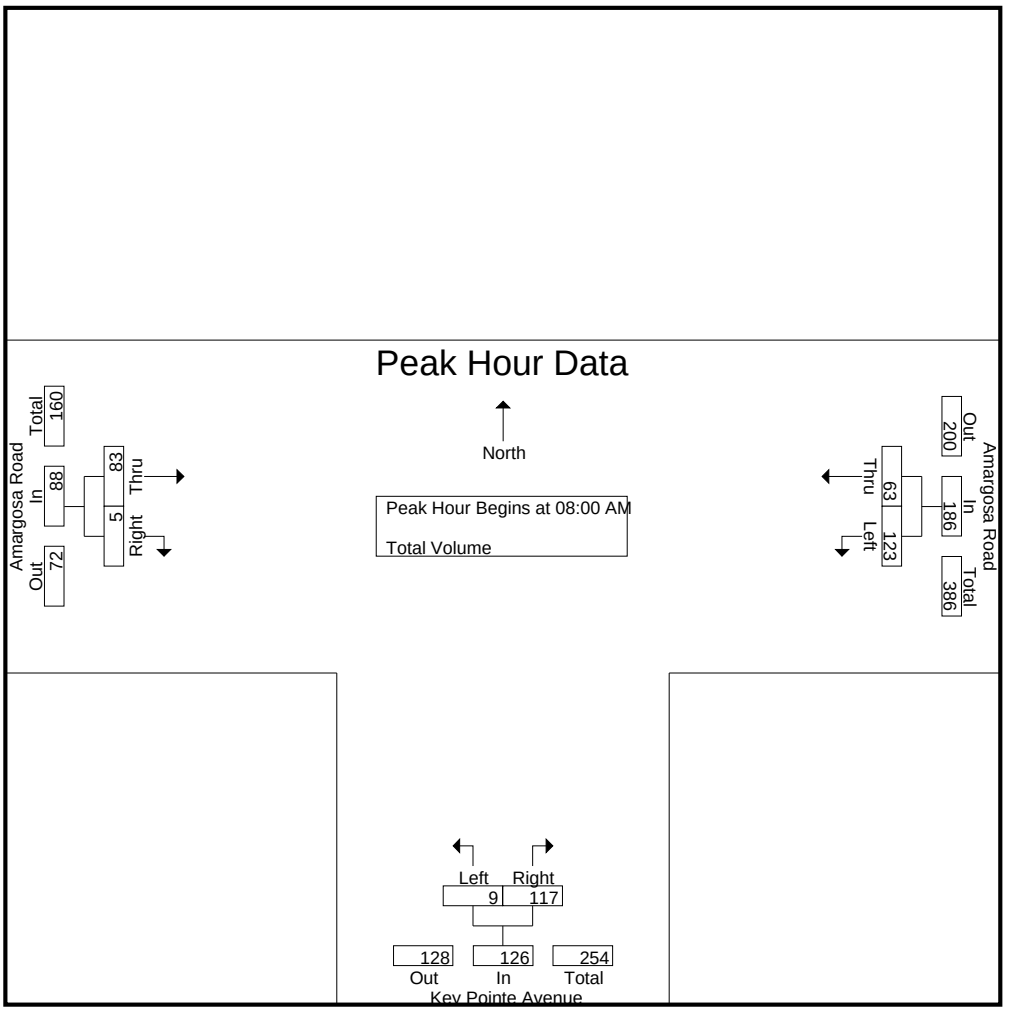
	Amargosa Road Westbound			Key Pointe Avenue Northbound			Amargosa Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	35	15	50	1	42	43	11	0	11	104
07:15 AM	23	16	39	1	35	36	19	2	21	96
07:30 AM	29	10	39	1	30	31	15	2	17	87
07:45 AM	29	14	43	1	33	34	21	5	26	103
Total	116	55	171	4	140	144	66	9	75	390
08:00 AM	30	14	44	4	29	33	14	1	15	92
08:15 AM	22	17	39	5	26	31	22	2	24	94
08:30 AM	28	17	45	0	34	34	26	2	28	107
08:45 AM	43	15	58	0	28	28	21	0	21	107
Total	123	63	186	9	117	126	83	5	88	400
Grand Total	239	118	357	13	257	270	149	14	163	790
Apprch %	66.9	33.1		4.8	95.2		91.4	8.6		
Total %	30.3	14.9	45.2	1.6	32.5	34.2	18.9	1.8	20.6	

	Amargosa Road Westbound			Key Pointe Avenue Northbound			Amargosa Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	30	14	44	4	29	33	14	1	15	92
08:15 AM	22	**17**	39	**5**	26	31	22	**2**	24	94
08:30 AM	28	17	45	0	**34**	**34**	**26**	2	**28**	**107**
08:45 AM	**43**	15	**58**	0	28	28	21	0	21	107
Total Volume	123	63	186	9	117	126	83	5	88	400
% App. Total	66.1	33.9		7.1	92.9		94.3	5.7		
PHF	.715	.926	.802	.450	.860	.926	.798	.625	.786	.935

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City of Hesperia
N/S: Key Pointe Avenue
E/W: Amargosa Road
Weather: Clear

File Name : HESKPAMAM
Site Code : 10824773
Start Date : 9/5/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			07:00 AM			07:45 AM		
+0 mins.	30	14	44	**1**	**42**	**43**	21	**5**	26
+15 mins.	22	**17**	39	1	35	36	14	1	15
+30 mins.	28	17	45	1	30	31	22	2	24
+45 mins.	**43**	15	**58**	1	33	34	**26**	2	**28**
Total Volume	123	63	186	4	140	144	83	10	93
% App. Total	66.1	33.9		2.8	97.2		89.2	10.8	
PHF	.715	.926	.802	1.000	.833	.837	.798	.500	.830

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City of Hesperia
N/S: Key Pointe Avenue
E/W: Amargosa Road
Weather: Clear

File Name : HESKPAMPM
Site Code : 10824773
Start Date : 9/5/2024
Page No : 1

Groups Printed- Total Volume

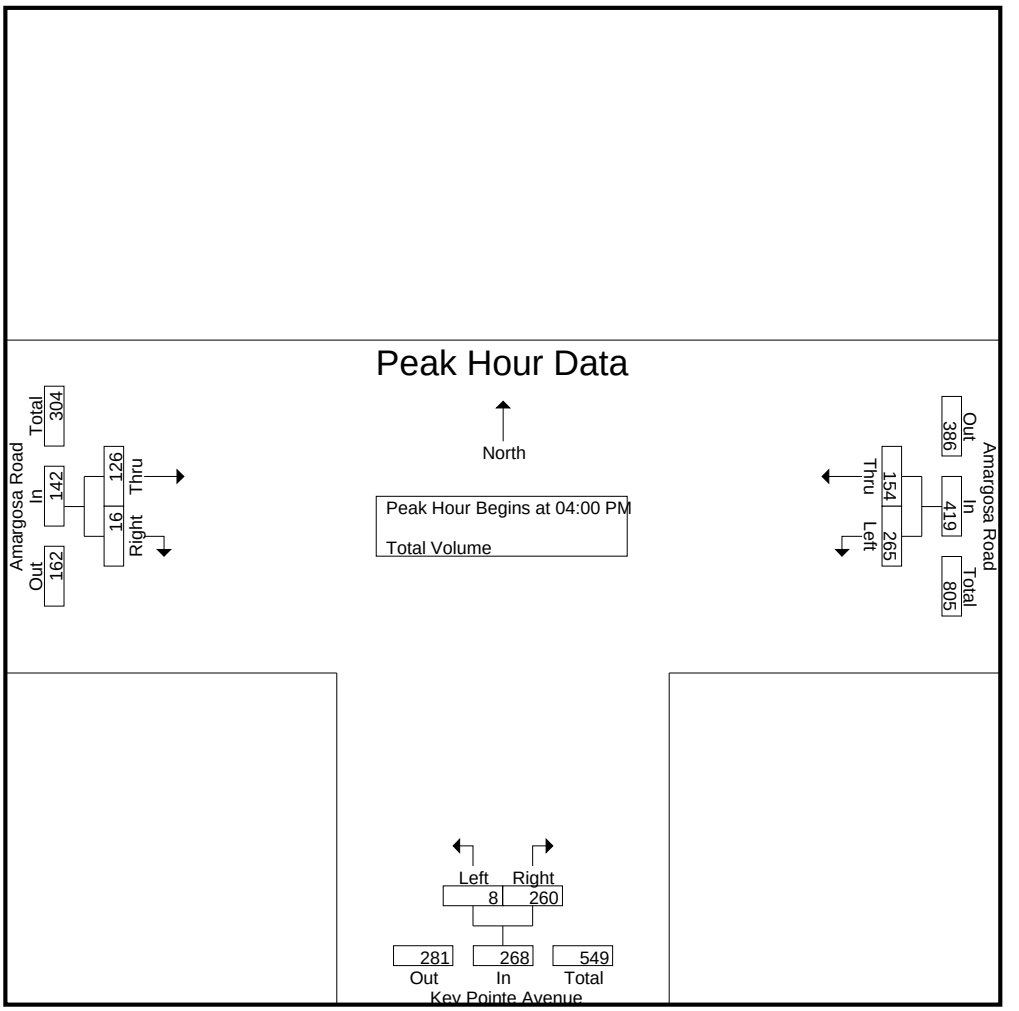
	Amargosa Road Westbound			Key Pointe Avenue Northbound			Amargosa Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	93	35	128	2	61	63	37	5	42	233
04:15 PM	50	45	95	4	73	77	35	4	39	211
04:30 PM	57	35	92	1	70	71	27	5	32	195
04:45 PM	65	39	104	1	56	57	27	2	29	190
Total	265	154	419	8	260	268	126	16	142	829
05:00 PM	60	42	102	4	65	69	33	4	37	208
05:15 PM	70	33	103	2	68	70	28	1	29	202
05:30 PM	58	45	103	2	63	65	29	2	31	199
05:45 PM	60	26	86	2	61	63	31	2	33	182
Total	248	146	394	10	257	267	121	9	130	791
Grand Total	513	300	813	18	517	535	247	25	272	1620
Apprch %	63.1	36.9		3.4	96.6		90.8	9.2		
Total %	31.7	18.5	50.2	1.1	31.9	33	15.2	1.5	16.8	

	Amargosa Road Westbound			Key Pointe Avenue Northbound			Amargosa Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	**93**	35	**128**	2	61	63	**37**	**5**	**42**	**233**
04:15 PM	50	**45**	95	**4**	**73**	**77**	35	4	39	211
04:30 PM	57	35	92	1	70	71	27	5	32	195
04:45 PM	65	39	104	1	56	57	27	2	29	190
Total Volume	265	154	419	8	260	268	126	16	142	829
% App. Total	63.2	36.8		3	97		88.7	11.3		
PHF	.712	.856	.818	.500	.890	.870	.851	.800	.845	.889

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City of Hesperia
N/S: Key Pointe Avenue
E/W: Amargosa Road
Weather: Clear

File Name : HESKPAMPM
Site Code : 10824773
Start Date : 9/5/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:15 PM			04:00 PM		
+0 mins.	**93**	35	**128**	**4**	**73**	**77**	**37**	**5**	**42**
+15 mins.	50	**45**	95	1	70	71	35	4	39
+30 mins.	57	35	92	1	56	57	27	5	32
+45 mins.	65	39	104	4	65	69	27	2	29
Total Volume	265	154	419	10	264	274	126	16	142
% App. Total	63.2	36.8		3.6	96.4		88.7	11.3	
PHF	.712	.856	.818	.625	.904	.890	.851	.800	.845

Counts Unlimited, Inc

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email: counts@countsunlimited.com

City of Hesperia
Key Pointe Drive
S/ Amargosa Road
24 Hour Directional Volume Count

HES003
Site Code: 108-24773

Start Time	9/5/24 Thu	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		5	66			15	74				
12:15		10	84			6	68				
12:30		4	68			3	75				
12:45		7	50	26	268	4	63	28	280	54	548
01:00		3	54			6	66				
01:15		6	74			2	80				
01:30		4	61			6	70				
01:45		2	50	15	239	4	**84**	18	300	33	539
02:00		1	**78**			1	**60**				
02:15		2	**70**			2	**79**				
02:30		2	**68**			5	**83**				
02:45		4	**80**	9	296	3	62	11	284	20	580
03:00		4	70			0	64				
03:15		3	58			4	74				
03:30		23	61			9	56				
03:45		33	70	63	259	18	44	31	238	94	497
04:00		7	62			26	102				
04:15		6	82			13	50				
04:30		6	66			16	56				
04:45		10	65	29	275	17	74	72	282	101	557
05:00		6	80			18	56				
05:15		11	74			7	72				
05:30		12	69			10	61				
05:45		12	70	41	293	20	52	55	241	96	534
06:00		7	54			13	58				
06:15		10	61			24	56				
06:30		22	66			18	55				
06:45		32	57	71	238	30	51	85	220	156	458
07:00		38	53			38	66				
07:15		40	46			26	50				
07:30		33	51			26	52				
07:45		34	40	145	190	36	50	126	218	271	408
08:00		32	50			36	58				
08:15		31	47			26	53				
08:30		35	28			30	57				
08:45		28	45	126	170	40	33	132	201	258	371
09:00		34	48			40	51				
09:15		36	43			41	59				
09:30		42	37			32	37				
09:45		51	32	163	160	34	26	147	173	310	333
10:00		59	48			54	17				
10:15		36	46			44	17				
10:30		42	34			48	19				
10:45		60	39	197	167	51	17	197	70	394	237
11:00		**51**	29			**54**	14				
11:15		**62**	21			**49**	16				
11:30		**57**	26			**66**	8				
11:45		**64**	12	234	88	**58**	12	227	50	461	138
Total		1119	2643	1119	2643	1129	2557	1129	2557	2248	5200
Combined Total		3762		3762		3686		3686		7448	
AM Peak	-	11:00	-	-	-	11:00	-	-	-	-	-
Vol.	-	234	-	-	-	227	-	-	-	-	-
P.H.F.		0.914				0.860					
PM Peak	-	-	02:00	-	-	-	01:45	-	-	-	-
Vol.	-	-	296	-	-	-	306	-	-	-	-
P.H.F.			0.881				0.911				
Percentage		29.7%	70.3%			30.6%	69.4%				
ADT/AADT		ADT 7,448		AADT 7,448							

Counts Unlimited, Inc

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City of Hesperia
Amargosa Road
E/ Key Pointe Drive
24 Hour Directional Volume Count

HES001
Site Code: 108-24773

Start Time	9/5/24 Thu	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		11	90			19	103				
12:15		12	112			7	108				
12:30		4	88			7	100				
12:45		7	78	34	368	5	98	38	409	72	777
01:00		4	81			10	110				
01:15		8	110			1	104				
01:30		5	83			6	106				
01:45		2	90	19	364	6	**105**	23	425	42	789
02:00		2	112			1	**84**				
02:15		1	104			4	**120**				
02:30		4	**104**			6	**128**				
02:45		6	**107**	13	427	4	92	15	424	28	851
03:00		4	**114**			1	88				
03:15		4	**110**			6	124				
03:30		27	98			12	88				
03:45		42	101	77	423	27	74	46	374	123	797
04:00		11	97			26	128				
04:15		8	118			16	98				
04:30		8	98			18	88				
04:45		10	93	37	406	26	110	86	424	123	830
05:00		8	102			19	91				
05:15		14	98			15	113				
05:30		17	104			15	101				
05:45		23	94	62	398	22	84	71	389	133	787
06:00		12	75			18	78				
06:15		12	82			32	68				
06:30		34	81			28	88				
06:45		38	82	96	320	48	76	126	310	222	630
07:00		50	80			50	92				
07:15		58	66			42	62				
07:30		44	68			40	78				
07:45		52	56	204	270	44	68	176	300	380	570
08:00		46	68			51	74				
08:15		46	61			38	83				
08:30		63	44			46	76				
08:45		46	53	201	226	55	48	190	281	391	507
09:00		56	57			55	68				
09:15		59	56			60	69				
09:30		62	44			62	45				
09:45		76	36	253	193	63	37	240	219	493	412
10:00		82	58			76	30				
10:15		65	59			78	28				
10:30		78	40			60	23				
10:45		88	42	313	199	78	30	292	111	605	310
11:00		**76**	35			**78**	16				
11:15		**80**	30			**73**	20				
11:30		**98**	33			**92**	10				
11:45		**107**	14	361	112	**92**	10	335	56	696	168
Total		1670	3706	1670	3706	1638	3722	1638	3722	3308	7428
Combined Total		5376		5376		5360		5360		10736	
AM Peak	-	11:00	-	-	-	11:00	-	-	-	-	-
Vol.	-	361	-	-	-	335	-	-	-	-	-
P.H.F.		0.843				0.910					
PM Peak	-	-	02:30	-	-	-	01:45	-	-	-	-
Vol.	-	-	435	-	-	-	437	-	-	-	-
P.H.F.			0.954				0.854				
Percentage		31.1%	68.9%			30.6%	69.4%				
ADT/AADT		ADT 10,736		AADT 10,736							

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City of Hesperia
Amargosa Road
W/ Key Pointe Drive
24 Hour Directional Volume Count

HES002
Site Code: 108-24773

Start Time	9/5/24 Thu	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		3	40			1	31				
12:15		6	35			2	38				
12:30		2	30			5	28				
12:45		0	28	11	133	2	37	10	134	21	267
01:00		3	30			4	38				
01:15		1	33			1	43				
01:30		2	38			1	33				
01:45		3	33	9	134	3	33	9	147	18	281
02:00		1	44			1	34				
02:15		1	44			0	45				
02:30		0	34			2	42				
02:45		1	48	3	170	2	38	5	159	8	329
03:00		1	32			1	32				
03:15		0	**50**			2	37				
03:30		1	**46**			1	46				
03:45		5	**50**	7	178	5	30	9	145	16	323
04:00		8	**33**			6	40				
04:15		4	42			2	51				
04:30		2	42			1	32				
04:45		2	35	16	152	6	**40**	15	163	31	315
05:00		3	30			4	**42**				
05:15		1	34			4	**46**				
05:30		4	28			8	**40**				
05:45		7	33	15	125	4	35	20	163	35	288
06:00		11	34			7	19				
06:15		6	19			8	26				
06:30		12	24			12	29				
06:45		15	29	44	106	14	32	41	106	85	212
07:00		9	24			15	30				
07:15		11	30			14	21				
07:30		15	27			15	22				
07:45		21	14	56	95	17	22	61	95	117	190
08:00		22	16			18	30				
08:15		18	28			15	19				
08:30		21	13			18	30				
08:45		31	17	92	74	13	12	64	91	156	165
09:00		17	13			15	18				
09:15		28	9			24	21				
09:30		24	16			25	12				
09:45		21	10	90	48	34	8	98	59	188	107
10:00		30	5			21	15				
10:15		22	9			30	14				
10:30		**32**	14			26	5				
10:45		**42**	5	126	33	25	10	102	44	228	77
11:00		**28**	5			**28**	4				
11:15		**28**	3			**22**	6				
11:30		27	8			**33**	5				
11:45		42	7	125	23	**39**	8	122	23	247	46
Total		594	1271	594	1271	556	1329	556	1329	1150	2600
Combined Total		1865		1865		1885		1885		3750	
AM Peak	-	10:30	-	-	-	11:00	-	-	-	-	-
Vol.	-	130	-	-	-	122	-	-	-	-	-
P.H.F.		0.774				0.782					
PM Peak	-	-	03:15	-	-	-	04:45	-	-	-	-
Vol.	-	-	179	-	-	-	168	-	-	-	-
P.H.F.			0.895				0.824				
Percentage		31.8%	68.2%			29.5%	70.5%				
ADT/AADT		ADT 3,750		AADT 3,750							

APPENDIX **D**

INTERSECTION ANALYSIS
WORKSHEETS

APPENDIX D-1

INTERSECTION ANALYSIS
WORKSHEETS –
EXISTING CONDITIONS

Hesperia Big Box Retail and Fuel Station

Vistro File: K:\...\Hesperia Big Box Retail and Fuel Station_AM.vistro

Scenario 1 EX AM

Report File: K:\...\1. EX AM.pdf

12/16/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Keypointe Dr at Amargosa Rd	Two-way stop	HCM 7th Edition	NB Left	0.011	11.9	B
2	US-395 at Phelan Rd/Main St	Signalized	HCM 7th Edition	WB Left	0.546	28.8	C
3	Mesa Linda St at Main St	Signalized	HCM 7th Edition	EB Left	0.257	10.2	B
4	Cataba Rd at Main St	Signalized	HCM 7th Edition	EB Left	0.317	21.1	C
5	Keypointe Dr at Main St	Signalized	HCM 7th Edition	EB Left	0.368	13.0	B
6	I-15 SB Ramps at Main St	Signalized	HCM 7th Edition	SB Right	0.340	9.6	A
7	I-15 NB Ramps at Main St	Signalized	HCM 7th Edition	NB Right	0.465	9.4	A
8	Mariposa Rd at Main St	Signalized	HCM 7th Edition	WB Left	0.467	19.6	B
9	Mountain Vista Ave at Main St	Signalized	HCM 7th Edition	WB Left	0.421	13.1	B
10	Escondido Ave at Main St	Signalized	HCM 7th Edition	SB Left	0.559	27.1	C
11	Topaz Ave at Main St	Signalized	HCM 7th Edition	WB Left	0.574	23.5	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Keypointe Dr at Amargosa Rd

Control Type:	Two-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	1	0	1
Exit Pocket Length [ft]	0.00	100.00	0.00	49.21	0.00	477.13
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Base Volume Input [veh/h]	5	142	77	5	108	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	142	77	5	108	49
Peak Hour Factor	0.8080	0.8080	0.8080	0.8080	0.8080	0.8080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	44	24	2	33	15
Total Analysis Volume [veh/h]	6	176	95	6	134	61
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.17	0.00	0.00	0.09	0.00
d_M, Delay for Movement [s/veh]	11.90	9.33	0.00	0.00	7.58	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.63	0.00	0.00	0.24	0.12
95th-Percentile Queue Length [ft/ln]	0.86	15.79	0.00	0.00	6.03	3.01
d_A, Approach Delay [s/veh]	9.42		0.00		5.21	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.71					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: US-395 at Phelan Rd/Main St

Control Type:	Signalized	Delay (sec / veh):	28.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.546

Intersection Setup

Name	US-395			US-395			Phelan Rd			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395			US-395			Phelan Rd			Main St		
Base Volume Input [veh/h]	48	516	8	230	702	21	28	702	100	10	296	183
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	516	8	230	702	21	28	702	100	10	296	183
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	133	2	59	181	5	7	181	26	3	76	47
Total Analysis Volume [veh/h]	49	532	8	237	724	22	29	724	103	10	305	189
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	16	28	0	16	28	0	15	14	0	16	15	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	33	17	0	39	23	0	16	24	0	10	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	16	16	16	28	28	3	41	41	1	39	39
g / C, Green / Cycle	0.04	0.18	0.18	0.17	0.31	0.31	0.03	0.46	0.46	0.01	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.03	0.15	0.15	0.15	0.21	0.21	0.02	0.24	0.24	0.01	0.15	0.15
s, saturation flow rate [veh/h]	1593	1772	1762	1593	1772	1753	1593	1772	1695	1593	1772	1551
c, Capacity [veh/h]	66	323	321	275	555	549	47	806	771	20	776	679
d1, Uniform Delay [s]	42.66	35.52	35.53	36.20	26.92	26.92	43.17	17.56	17.57	44.14	16.65	16.74
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.99	5.79	5.85	7.85	1.45	1.46	12.47	2.43	2.55	17.39	1.16	1.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.84	0.84	0.86	0.68	0.68	0.62	0.52	0.52	0.49	0.33	0.34
d, Delay for Lane Group [s/veh]	57.65	41.32	41.38	44.05	28.37	28.38	55.65	20.00	20.11	61.53	17.81	18.12
Lane Group LOS	E	D	D	D	C	C	E	B	C	E	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.34	6.13	6.10	5.56	7.00	6.93	0.79	6.50	6.25	0.32	3.65	3.34
50th-Percentile Queue Length [ft/ln]	33.55	153.17	152.62	138.95	175.12	173.36	19.86	162.54	156.26	7.93	91.14	83.45
95th-Percentile Queue Length [veh/ln]	2.42	10.19	10.16	9.42	11.35	11.25	1.43	10.68	10.35	0.57	6.56	6.01
95th-Percentile Queue Length [ft/ln]	60.40	254.65	253.93	235.61	283.63	281.33	35.75	267.08	258.77	14.28	164.06	150.21

Movement, Approach, & Intersection Results

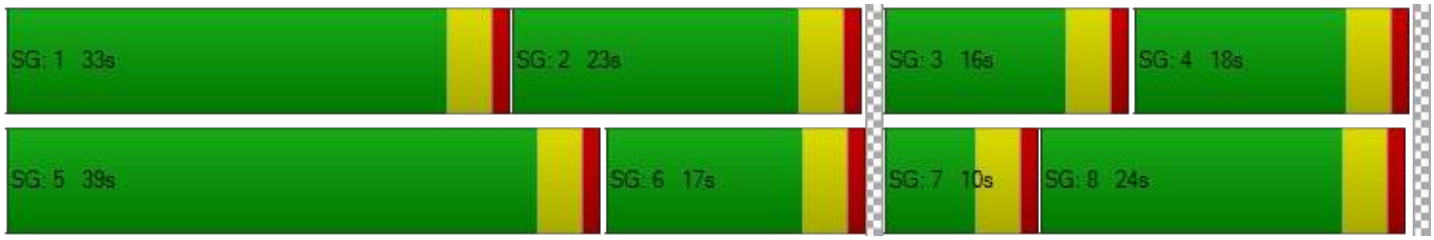
d_M, Delay for Movement [s/veh]	57.65	41.35	41.38	44.05	28.37	28.38	55.65	20.05	20.11	61.53	17.86	18.12
Movement LOS	E	D	D	D	C	C	E	C	C	E	B	B
d_A, Approach Delay [s/veh]	42.70			32.15			21.26			18.83		
Approach LOS	D			C			C			B		
d_I, Intersection Delay [s/veh]	28.80											
Intersection LOS	C											
Intersection V/C	0.546											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	289	422	444	311
d_b, Bicycle Delay [s]	32.94	28.01	27.22	32.09
l_b,int, Bicycle LOS Score for Intersection	2.046	2.371	2.266	1.975
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Mesa Linda St at Main St

Control Type:	Signalized	Delay (sec / veh):	10.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.257

Intersection Setup

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	460.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Base Volume Input [veh/h]	2	1	26	36	0	11	5	915	9	57	587	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1	26	36	0	11	5	915	9	57	587	17
Peak Hour Factor	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	7	9	0	3	1	231	2	14	148	4
Total Analysis Volume [veh/h]	2	1	26	36	0	11	5	925	9	58	594	17
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	29	0	0	20	0	10	16	0	9	15	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	14	0	24	14	0	29	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	5	7	7	1	58	58	4	61	61
g / C, Green / Cycle	0.06	0.06	0.08	0.08	0.01	0.64	0.64	0.05	0.68	0.68
(v / s)_i Volume / Saturation Flow Rate	0.00	0.02	0.02	0.01	0.00	0.18	0.18	0.04	0.12	0.12
s, saturation flow rate [veh/h]	1714	1506	1687	1506	1593	3373	1763	1593	3373	1746
c, Capacity [veh/h]	100	88	130	116	12	2161	1129	74	2292	1187
d1, Uniform Delay [s]	39.97	40.60	39.18	38.62	44.48	7.11	7.11	42.47	5.24	5.25
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	1.85	1.15	0.35	22.58	0.33	0.63	16.36	0.17	0.32
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.03	0.30	0.28	0.09	0.43	0.28	0.28	0.78	0.18	0.18
d, Delay for Lane Group [s/veh]	40.09	42.46	40.32	38.98	67.05	7.44	7.74	58.83	5.41	5.57
Lane Group LOS	D	D	D	D	E	A	A	E	A	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.07	0.59	0.78	0.24	0.18	2.38	2.58	1.60	1.22	1.32
50th-Percentile Queue Length [ft/ln]	1.64	14.80	19.60	5.88	4.59	59.42	64.52	39.95	30.43	32.95
95th-Percentile Queue Length [veh/ln]	0.12	1.07	1.41	0.42	0.33	4.28	4.65	2.88	2.19	2.37
95th-Percentile Queue Length [ft/ln]	2.95	26.64	35.29	10.58	8.27	106.96	116.14	71.91	54.77	59.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.09	40.09	42.46	40.32	40.32	38.98	67.05	7.54	7.74	58.83	5.46	5.57
Movement LOS	D	D	D	D	D	D	E	A	A	E	A	A
d_A, Approach Delay [s/veh]	42.21			40.01			7.86			10.09		
Approach LOS	D			D			A			B		
d_I, Intersection Delay [s/veh]	10.23											
Intersection LOS	B											
Intersection V/C	0.257											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersectio	0.000	1.964	0.000	2.826
Crosswalk LOS	F	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	222	222	333
d_b, Bicycle Delay [s]	20.67	35.56	35.56	31.25
l_b,int, Bicycle LOS Score for Intersection	1.607	1.637	2.076	1.928
Bicycle LOS	A	A	B	A

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Cataba Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	21.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.317

Intersection Setup

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	260.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Base Volume Input [veh/h]	50	13	109	34	9	46	63	740	87	138	546	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	13	109	34	9	46	63	740	87	138	546	18
Peak Hour Factor	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	3	28	9	2	12	16	193	23	36	143	5
Total Analysis Volume [veh/h]	52	14	114	36	9	48	66	773	91	144	571	19
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	23	0	0	23	0	0	10	0	6	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	36	0	0	36	0	12	26	0	12	26	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	11	11	9	9	9	6	66	66	8	68	68
g / C, Green / Cycle	0.10	0.10	0.10	0.09	0.09	0.09	0.05	0.60	0.60	0.07	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.08	0.02	0.01	0.03	0.04	0.16	0.06	0.05	0.12	0.12
s, saturation flow rate [veh/h]	1593	1721	1506	1593	1772	1506	1593	4826	1506	2912	3373	1743
c, Capacity [veh/h]	154	166	145	138	153	130	83	2906	907	202	2089	1079
d1, Uniform Delay [s]	45.83	45.82	48.59	46.97	46.14	47.42	51.52	10.36	9.26	50.10	9.00	9.01
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.66	0.61	8.99	1.00	0.16	1.74	15.15	0.22	0.22	4.57	0.20	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.21	0.79	0.26	0.06	0.37	0.79	0.27	0.10	0.71	0.19	0.19
d, Delay for Lane Group [s/veh]	46.49	46.43	57.58	47.96	46.30	49.15	66.67	10.58	9.48	54.67	9.20	9.39
Lane Group LOS	D	D	E	D	D	D	E	B	A	D	A	A
Critical Lane Group	No	No	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.83	0.89	3.41	0.96	0.23	1.30	2.15	2.90	0.95	2.06	1.97	2.10
50th-Percentile Queue Length [ft/ln]	20.81	22.24	85.32	24.01	5.83	32.61	53.66	72.45	23.79	51.59	49.32	52.57
95th-Percentile Queue Length [veh/ln]	1.50	1.60	6.14	1.73	0.42	2.35	3.86	5.22	1.71	3.71	3.55	3.79
95th-Percentile Queue Length [ft/ln]	37.45	40.03	153.58	43.22	10.50	58.70	96.59	130.42	42.82	92.87	88.77	94.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.49	46.43	57.58	47.96	46.30	49.15	66.67	10.58	9.48	54.67	9.26	9.39
Movement LOS	D	D	E	D	D	D	E	B	A	D	A	A
d_A, Approach Delay [s/veh]	53.50			48.42			14.46			18.17		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	21.12											
Intersection LOS	C											
Intersection V/C	0.317											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	46.37	46.37	46.37	46.37
l_p,int, Pedestrian LOS Score for Intersectio	2.394	2.348	2.932	2.939
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	582	582	400	400
d_b, Bicycle Delay [s]	27.65	27.65	35.20	35.20
l_b,int, Bicycle LOS Score for Intersection	1.857	1.713	2.071	1.963
Bicycle LOS	A	A	B	A

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Keypointe Dr at Main St

Control Type:	Signalized	Delay (sec / veh):	13.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.368

Intersection Setup

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	741.32	180.00	100.00	366.47	192.10	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Base Volume Input [veh/h]	7	10	56	113	24	10	20	944	9	128	634	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	10	56	113	24	10	20	944	9	128	634	120
Peak Hour Factor	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	3	14	29	6	3	5	241	2	33	162	31
Total Analysis Volume [veh/h]	7	10	57	115	25	10	20	964	9	131	648	123
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	36	0	0	36	0	35	26	0	28	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	12	12	12	12	2	57	57	9	64	64
g / C, Green / Cycle	0.14	0.14	0.14	0.14	0.14	0.02	0.63	0.63	0.10	0.71	0.71
(v / s)_i Volume / Saturation Flow Rate	0.01	0.01	0.04	0.09	0.02	0.01	0.20	0.01	0.08	0.15	0.16
s, saturation flow rate [veh/h]	1373	1772	1506	1334	1687	1593	4826	1506	1593	3373	1632
c, Capacity [veh/h]	206	239	203	220	227	35	3040	948	162	2394	1158
d1, Uniform Delay [s]	37.31	33.87	35.01	39.43	34.39	43.57	7.70	6.20	39.55	4.48	4.49
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.07	0.07	0.75	1.91	0.31	13.43	0.27	0.02	9.05	0.21	0.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.03	0.04	0.28	0.52	0.15	0.57	0.32	0.01	0.81	0.22	0.22
d, Delay for Lane Group [s/veh]	37.38	33.94	35.75	41.35	34.70	57.01	7.98	6.22	48.59	4.69	4.93
Lane Group LOS	D	C	D	D	C	E	A	A	D	A	A
Critical Lane Group	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.14	0.19	1.15	2.57	0.69	0.57	2.64	0.06	3.20	1.41	1.46
50th-Percentile Queue Length [ft/ln]	3.58	4.83	28.78	64.18	17.22	14.22	66.05	1.57	80.03	35.28	36.42
95th-Percentile Queue Length [veh/ln]	0.26	0.35	2.07	4.62	1.24	1.02	4.76	0.11	5.76	2.54	2.62
95th-Percentile Queue Length [ft/ln]	6.44	8.69	51.81	115.52	31.00	25.59	118.90	2.82	144.06	63.51	65.55

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.38	33.94	35.75	41.35	34.70	34.70	57.01	7.98	6.22	48.59	4.74	4.93
Movement LOS	D	C	D	D	C	C	E	A	A	D	A	A
d_A, Approach Delay [s/veh]	35.66			39.80			8.95			11.13		
Approach LOS	D			D			A			B		
d_I, Intersection Delay [s/veh]	13.00											
Intersection LOS	B											
Intersection V/C	0.368											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.348	2.040	2.939	3.043
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	711	489	333
d_b, Bicycle Delay [s]	18.69	18.69	25.69	31.25
l_b,int, Bicycle LOS Score for Intersection	1.682	1.807	2.106	2.056
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: I-15 SB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	9.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.340

Intersection Setup

Name							Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	639.00	100.00	100.00	200.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name							Main St			Main St		
Base Volume Input [veh/h]	0	0	0	235	0	172	0	1032	85	0	719	503
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	235	0	172	0	1032	85	0	719	503
Peak Hour Factor	1.0000	1.0000	1.0000	0.9640	1.0000	0.9640	1.0000	0.9640	0.9640	1.0000	0.9640	0.9640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	61	0	45	0	268	22	0	186	130
Total Analysis Volume [veh/h]	0	0	0	244	0	178	0	1071	88	0	746	522
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	7	0	4	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	5	0	5	0	10	0	0	10	0
Maximum Green [s]	0	0	0	32	0	32	0	20	0	0	20	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	44	0	94	0	46	0	0	46	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	10	0	0	0	3	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		90	90	90	90
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		14	14	68	68
g / C, Green / Cycle		0.15	0.15	0.76	0.76
(v / s)_i Volume / Saturation Flow Rate		0.08	0.12	0.22	0.15
s, saturation flow rate [veh/h]		2912	1506	4826	4826
c, Capacity [veh/h]		441	228	3666	3666
d1, Uniform Delay [s]		35.36	36.74	3.34	3.07
k, delay calibration		0.11	0.11	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		1.09	5.73	0.20	0.13
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.55	0.78	0.29	0.20
d, Delay for Lane Group [s/veh]		36.45	42.47	3.54	3.20
Lane Group LOS		D	D	A	A
Critical Lane Group		No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		2.51	4.07	1.49	0.95
50th-Percentile Queue Length [ft/ln]		62.77	101.71	37.24	23.84
95th-Percentile Queue Length [veh/ln]		4.52	7.32	2.68	1.72
95th-Percentile Queue Length [ft/ln]		112.99	183.09	67.03	42.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	36.45	0.00	42.47	0.00	3.54	0.00	0.00	3.20	0.00
Movement LOS				D		D		A			A	
d_A, Approach Delay [s/veh]	0.00			38.99			3.28			1.91		
Approach LOS	A			D			A			A		
d_I, Intersection Delay [s/veh]	9.56											
Intersection LOS	A											
Intersection V/C	0.340											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	889	933	933
d_b, Bicycle Delay [s]	45.00	13.89	12.80	12.80
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.149	1.970
Bicycle LOS	D	A	B	A

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: I-15 NB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.465

Intersection Setup

Name	I-15 NB Ramps						Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	639.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	307.42
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	I-15 NB Ramps						Main St			Main St		
Base Volume Input [veh/h]	57	2	383	0	0	0	0	1005	274	0	1117	472
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	57	2	383	0	0	0	0	1005	274	0	1117	472
Peak Hour Factor	0.9470	0.9470	0.9470	1.0000	1.0000	1.0000	1.0000	0.9470	0.9470	1.0000	0.9470	0.9470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	1	101	0	0	0	0	265	72	0	295	125
Total Analysis Volume [veh/h]	60	2	404	0	0	0	0	1061	289	0	1180	498
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	26	0	0	26	0	0	26	0	0	26	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	31	0	0	94	0	0	59	0	0	59	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No						No			No	
Maximum Recall		No						No			No	
Pedestrian Recall		No						No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R		C	C	R
C, Cycle Length [s]	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	15	15	15		67	67	67
g / C, Green / Cycle	0.17	0.17	0.17		0.75	0.75	0.75
(v / s)_i Volume / Saturation Flow Rate	0.04	0.13	0.13		0.22	0.24	0.33
s, saturation flow rate [veh/h]	1593	1508	1506		4826	4826	1506
c, Capacity [veh/h]	265	251	250		3594	3594	1122
d1, Uniform Delay [s]	32.50	36.15	36.15		3.76	3.88	4.38
k, delay calibration	0.11	0.11	0.11		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	0.43	6.17	6.17		0.21	0.24	1.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.23	0.81	0.81		0.30	0.33	0.44
d, Delay for Lane Group [s/veh]	32.93	42.31	42.32		3.97	4.12	5.65
Lane Group LOS	C	D	D		A	A	A
Critical Lane Group	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.15	4.65	4.65		1.64	1.89	2.98
50th-Percentile Queue Length [ft/ln]	28.82	116.30	116.14		41.06	47.19	74.46
95th-Percentile Queue Length [veh/ln]	2.08	8.19	8.18		2.96	3.40	5.36
95th-Percentile Queue Length [ft/ln]	51.88	204.73	204.51		73.91	84.94	134.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.93	42.31	42.32	0.00	0.00	0.00	0.00	3.97	0.00	0.00	4.12	5.65
Movement LOS	C	D	D					A			A	A
d_A, Approach Delay [s/veh]	41.11			0.00			3.15			4.58		
Approach LOS	D			A			A			A		
d_I, Intersection Delay [s/veh]	9.42											
Intersection LOS	A											
Intersection V/C	0.465											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.246	1.912	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	0	1222	1222
d_b, Bicycle Delay [s]	22.05	45.00	6.81	6.81
l_b,int, Bicycle LOS Score for Intersection	2.329	4.132	2.143	2.483
Bicycle LOS	B	D	B	B

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Mariposa Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	19.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.467

Intersection Setup

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	307.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Base Volume Input [veh/h]	70	46	49	67	114	162	122	1115	114	102	1301	54
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	46	49	67	114	162	122	1115	114	102	1301	54
Peak Hour Factor	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	12	13	17	29	42	31	286	29	26	334	14
Total Analysis Volume [veh/h]	72	47	50	69	117	166	125	1146	117	105	1337	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	36	0	5	36	0	5	16	0	5	16	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	94	40	0	94	40	0	31	19	0	31	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	0	0	31	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	25	25	25	25	9	46	46	7	45	45
g / C, Green / Cycle	0.27	0.27	0.27	0.27	0.10	0.51	0.51	0.08	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.07	0.06	0.05	0.18	0.08	0.19	0.20	0.07	0.21	0.21
s, saturation flow rate [veh/h]	1096	1624	1298	1605	1593	4826	1666	1593	4826	1726
c, Capacity [veh/h]	176	445	338	440	155	2459	849	132	2388	854
d1, Uniform Delay [s]	40.07	25.22	30.50	28.78	39.77	13.43	13.45	40.51	14.57	14.58
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.51	0.24	0.29	1.58	9.28	0.45	1.31	10.22	0.57	1.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.22	0.20	0.64	0.80	0.38	0.38	0.79	0.43	0.43
d, Delay for Lane Group [s/veh]	41.59	25.46	30.79	30.36	49.04	13.89	14.76	50.74	15.14	16.16
Lane Group LOS	D	C	C	C	D	B	B	D	B	B
Critical Lane Group	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.61	1.61	1.28	5.44	3.07	3.73	4.09	2.63	4.34	4.90
50th-Percentile Queue Length [ft/ln]	40.28	40.18	31.97	136.12	76.74	93.25	102.22	65.71	108.48	122.60
95th-Percentile Queue Length [veh/ln]	2.90	2.89	2.30	9.27	5.53	6.71	7.36	4.73	7.76	8.54
95th-Percentile Queue Length [ft/ln]	72.50	72.32	57.55	231.80	138.14	167.85	183.99	118.28	193.89	213.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.59	25.46	25.46	30.79	30.36	30.36	49.04	14.04	14.76	50.74	15.38	16.16
Movement LOS	D	C	C	C	C	C	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	32.33			30.44			17.26			17.89		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	19.64											
Intersection LOS	B											
Intersection V/C	0.467											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.107	2.130	3.274	3.248
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	800	333	333
d_b, Bicycle Delay [s]	16.20	16.20	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	1.838	2.140	2.132	2.177
Bicycle LOS	A	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Mountain Vista Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	13.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.421

Intersection Setup

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	330.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Base Volume Input [veh/h]	13	0	18	102	3	31	26	1196	8	59	1459	94
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	0	18	102	3	31	26	1196	8	59	1459	94
Peak Hour Factor	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	5	27	1	8	7	314	2	15	383	25
Total Analysis Volume [veh/h]	14	0	19	107	3	33	27	1256	8	62	1533	99
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	10	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	10	0	10	0	6	10	0	5	10	0
Amber [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	40	40	0	47	0	10	33	0	10	33	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	31	0	38	0	0	24	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No	No		No		No	No		No	No	
Maximum Recall		No	No		No		No	No		No	No	
Pedestrian Recall		No	No		No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	L	C	C	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	7	7	18	10	10	3	90	90	7	94	94
g / C, Green / Cycle	0.05	0.05	0.05	0.14	0.08	0.08	0.02	0.69	0.69	0.05	0.72	0.72
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.01	0.05	0.05	0.01	0.21	0.21	0.04	0.35	0.07
s, saturation flow rate [veh/h]	1434	1518	1594	2399	1434	1442	2621	4343	1588	1434	4343	1355
c, Capacity [veh/h]	77	82	86	331	110	111	63	3009	1100	76	3136	978
d1, Uniform Delay [s]	58.46	58.44	0.00	48.68	58.24	58.31	62.56	7.80	7.80	60.90	7.77	5.42
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.50	0.44	0.00	0.07	5.98	6.35	4.57	0.27	0.73	18.13	0.55	0.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.09	0.09	0.00	0.06	0.64	0.65	0.43	0.31	0.31	0.81	0.49	0.10
d, Delay for Lane Group [s/veh]	58.95	58.88	0.00	48.76	64.22	64.67	67.13	8.07	8.53	79.03	8.31	5.63
Lane Group LOS	E	E	A	D	E	E	E	A	A	E	A	A
Critical Lane Group	No	No	No	Yes	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.23	0.23	0.00	0.27	2.44	2.52	0.48	3.29	3.75	2.41	5.80	0.82
50th-Percentile Queue Length [ft/ln]	5.77	5.75	0.00	6.85	60.97	63.10	12.03	82.17	93.69	60.33	144.93	20.47
95th-Percentile Queue Length [veh/ln]	0.42	0.41	0.00	0.49	4.39	4.54	0.87	5.92	6.75	4.34	9.75	1.47
95th-Percentile Queue Length [ft/ln]	10.39	10.35	0.00	12.32	109.74	113.57	21.66	147.91	168.65	108.59	243.64	36.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	58.92	29.44	48.76	64.37	64.67	64.67	67.13	8.19	8.53	79.03	8.31	5.63
Movement LOS	E	C	D	E	E	E	E	A	A	E	A	A
d_A, Approach Delay [s/veh]	53.07			64.45			9.42			10.75		
Approach LOS	D			E			A			B		
d_I, Intersection Delay [s/veh]	13.08											
Intersection LOS	B											
Intersection V/C	0.421											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.628	2.216	3.265	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	662	446	446
d_b, Bicycle Delay [s]	33.98	29.11	39.23	39.23
l_b,int, Bicycle LOS Score for Intersection	1.587	1.796	2.092	2.491
Bicycle LOS	A	A	B	B

Sequence

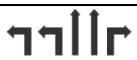
Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Escondido Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	27.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.559

Intersection Setup

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	661.02
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	3
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	160.47
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Base Volume Input [veh/h]	626	14	325	3	2	12	10	863	430	318	829	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	626	14	325	3	2	12	10	863	430	318	829	6
Peak Hour Factor	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	162	4	84	1	1	3	3	223	111	82	214	2
Total Analysis Volume [veh/h]	647	14	336	3	2	12	10	892	444	329	856	6
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	0	3	8	8	7	4	0
Auxiliary Signal Groups			6,7						1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	10	5	10	0
Maximum Green [s]	5	10	10	5	10	0	6	10	10	6	10	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	47	64	64	16	33	0	10	30	30	10	30	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	5	0	5	0
Pedestrian Clearance [s]	0	27	27	0	24	0	0	21	21	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No		No	No	No	No	No	
Maximum Recall	No	No	No	No	No		No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	31	34	59	0	4	1	48	83	21	68	68
g / C, Green / Cycle	0.26	0.28	0.49	0.00	0.03	0.01	0.40	0.69	0.18	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.22	0.01	0.22	0.00	0.01	0.01	0.18	0.29	0.11	0.25	0.00
s, saturation flow rate [veh/h]	2912	1772	1506	1593	1539	1593	4826	1506	2912	3373	1506
c, Capacity [veh/h]	746	502	745	7	49	19	1936	1040	517	1912	854
d1, Uniform Delay [s]	42.70	31.04	19.74	59.59	56.75	58.94	26.39	8.15	45.76	15.09	11.30
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.33	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.25	0.02	0.43	37.55	3.13	20.55	0.79	0.85	1.31	0.76	0.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.03	0.45	0.43	0.29	0.52	0.46	0.43	0.64	0.45	0.01
d, Delay for Lane Group [s/veh]	45.94	31.07	20.17	97.14	59.88	79.50	27.18	9.00	47.06	15.85	11.32
Lane Group LOS	D	C	C	F	E	E	C	A	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	9.45	0.30	6.13	0.16	0.46	0.41	6.37	4.92	4.64	6.82	0.07
50th-Percentile Queue Length [ft/ln]	236.28	7.49	153.23	4.08	11.45	10.28	159.21	123.09	116.03	170.50	1.83
95th-Percentile Queue Length [veh/ln]	14.49	0.54	10.19	0.29	0.82	0.74	10.51	8.56	8.17	11.10	0.13
95th-Percentile Queue Length [ft/ln]	362.32	13.48	254.73	7.35	20.61	18.51	262.68	214.06	204.35	277.57	3.29

Movement, Approach, & Intersection Results

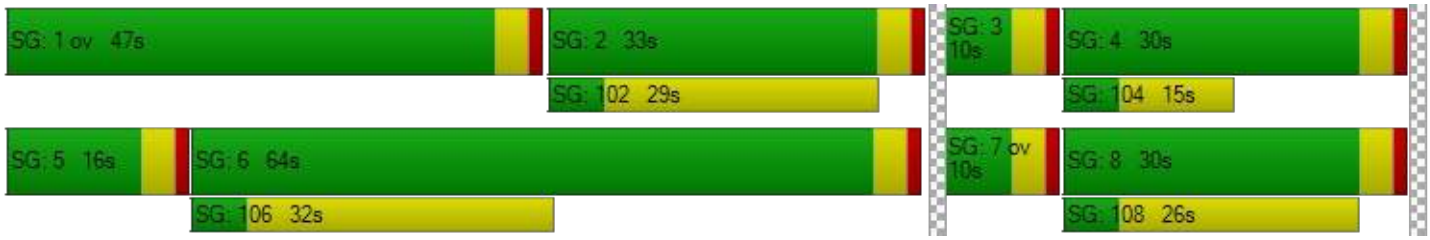
d_M, Delay for Movement [s/veh]	45.94	31.07	20.17	97.14	59.88	59.88	79.50	27.18	9.00	47.06	15.85	11.32
Movement LOS	D	C	C	F	E	E	E	C	A	D	B	B
d_A, Approach Delay [s/veh]	37.05			66.46			21.57			24.45		
Approach LOS	D			E			C			C		
d_I, Intersection Delay [s/veh]	27.10											
Intersection LOS	C											
Intersection V/C	0.559											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.756	1.971	3.089	3.218
Crosswalk LOS	C	A	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1000	483	433	433
d_b, Bicycle Delay [s]	15.00	34.50	36.82	36.82
l_b,int, Bicycle LOS Score for Intersection	3.205	1.588	2.300	2.542
Bicycle LOS	C	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Topaz Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	23.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.574

Intersection Setup

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	1279.32	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Base Volume Input [veh/h]	175	70	52	110	76	88	62	1073	95	28	925	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	175	70	52	110	76	88	62	1073	95	28	925	103
Peak Hour Factor	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	21	15	33	23	26	18	319	28	8	275	31
Total Analysis Volume [veh/h]	208	83	62	131	90	105	74	1274	113	33	1099	122
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	6	10	0	6	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	33	0	38	47	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	28	28	28	28	5	47	47	3	44	44
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.06	0.52	0.52	0.03	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.18	0.09	0.11	0.12	0.05	0.38	0.08	0.02	0.35	0.35
s, saturation flow rate [veh/h]	1188	1647	1243	1618	1593	3373	1506	1593	1772	1710
c, Capacity [veh/h]	311	517	357	508	96	1758	785	50	872	842
d1, Uniform Delay [s]	35.39	23.21	30.41	24.07	41.65	16.59	11.16	43.10	17.87	17.90
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.63	0.29	0.63	0.48	11.94	2.64	0.39	13.68	4.91	5.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.67	0.28	0.37	0.38	0.77	0.72	0.14	0.66	0.71	0.71
d, Delay for Lane Group [s/veh]	38.03	23.51	31.04	24.55	53.59	19.23	11.54	56.78	22.78	23.03
Lane Group LOS	D	C	C	C	D	B	B	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.58	2.31	2.49	3.23	1.92	9.94	1.19	0.91	10.53	10.26
50th-Percentile Queue Length [ft/ln]	114.46	57.75	62.17	80.75	48.01	248.56	29.84	22.74	263.34	256.51
95th-Percentile Queue Length [veh/ln]	8.09	4.16	4.48	5.81	3.46	15.11	2.15	1.64	15.86	15.51
95th-Percentile Queue Length [ft/ln]	202.19	103.96	111.91	145.36	86.42	377.84	53.72	40.93	396.41	387.84

Movement, Approach, & Intersection Results

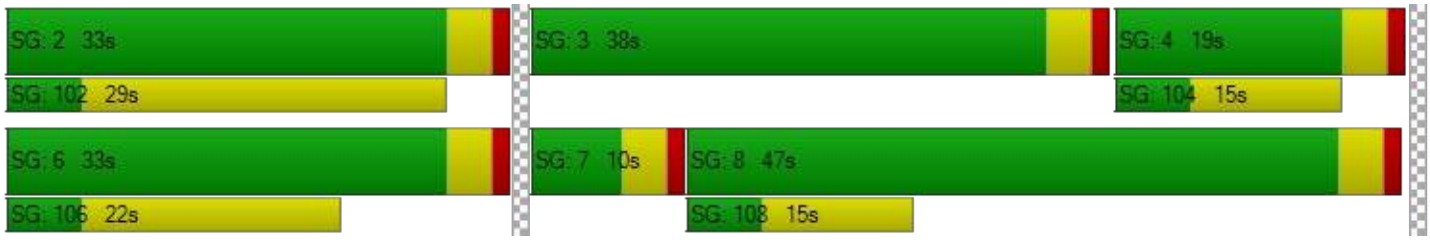
d_M, Delay for Movement [s/veh]	38.03	23.51	23.51	31.04	24.55	24.55	53.59	19.23	11.54	56.78	22.89	23.03
Movement LOS	D	C	C	C	C	C	D	B	B	E	C	C
d_A, Approach Delay [s/veh]	32.06			27.16			20.37			23.79		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	23.50											
Intersection LOS	C											
Intersection V/C	0.574											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.276	2.138	3.291	3.083
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	644	956	333
d_b, Bicycle Delay [s]	20.67	20.67	12.27	31.25
l_b,int, Bicycle LOS Score for Intersection	2.142	2.098	2.765	2.594
Bicycle LOS	B	B	C	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Hesperia Big Box Retail and Fuel Station

Vistro File: K:\...\Hesperia Big Box Retail and Fuel Station_PM.vistro

Scenario 1 EX PM

Report File: K:\...\1. EX PM.pdf

12/16/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Keypointe Dr at Amargosa Rd	Two-way stop	HCM 7th Edition	NB Left	0.028	20.1	C
2	US-395 at Phelan Rd/Main St	Signalized	HCM 7th Edition	SB Left	0.788	49.9	D
3	Mesa Linda St at Main St	Signalized	HCM 7th Edition	EB Left	0.283	10.7	B
4	Cataba Rd at Main St	Signalized	HCM 7th Edition	EB Left	0.435	27.5	C
5	Keypointe Dr at Main St	Signalized	HCM 7th Edition	EB Left	0.576	22.2	C
6	I-15 SB Ramps at Main St	Signalized	HCM 7th Edition	SB Right	0.454	12.8	B
7	I-15 NB Ramps at Main St	Signalized	HCM 7th Edition	NB Right	0.551	14.8	B
8	Mariposa Rd at Main St	Signalized	HCM 7th Edition	WB Left	0.601	25.1	C
9	Mountain Vista Ave at Main St	Signalized	HCM 7th Edition	WB Left	0.439	15.8	B
10	Escondido Ave at Main St	Signalized	HCM 7th Edition	SB Left	0.810	39.1	D
11	Topaz Ave at Main St	Signalized	HCM 7th Edition	EB Left	0.550	17.3	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Keypointe Dr at Amargosa Rd

Control Type:	Two-way stop	Delay (sec / veh):	20.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	1	0	1
Exit Pocket Length [ft]	0.00	100.00	0.00	49.21	0.00	477.13
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Base Volume Input [veh/h]	6	244	116	13	279	142
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	244	116	13	279	142
Peak Hour Factor	0.9220	0.9220	0.9220	0.9220	0.9220	0.9220
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	66	31	4	76	39
Total Analysis Volume [veh/h]	7	265	126	14	303	154
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.27	0.00	0.00	0.21	0.00
d_M, Delay for Movement [s/veh]	20.08	10.04	0.00	0.00	7.90	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.09	1.10	0.00	0.00	0.61	0.30
95th-Percentile Queue Length [ft/ln]	2.19	27.52	0.00	0.00	15.13	7.57
d_A, Approach Delay [s/veh]	10.30		0.00		5.24	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	5.98					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 2: US-395 at Phelan Rd/Main St

Control Type:	Signalized	Delay (sec / veh):	49.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.788

Intersection Setup

Name	US-395			US-395			Phelan Rd			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395			US-395			Phelan Rd			Main St		
Base Volume Input [veh/h]	99	885	54	237	536	35	36	500	44	6	557	453
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	99	885	54	237	536	35	36	500	44	6	557	453
Peak Hour Factor	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	233	14	63	141	9	9	132	12	2	147	119
Total Analysis Volume [veh/h]	104	934	57	250	565	37	38	527	46	6	588	478
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	16	28	0	16	28	0	15	14	0	16	15	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	28	29	0	18	19	0	10	33	0	10	33	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	25	25	14	32	32	3	34	34	1	32	32
g / C, Green / Cycle	0.08	0.28	0.28	0.16	0.35	0.35	0.03	0.38	0.38	0.01	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.07	0.28	0.28	0.16	0.17	0.17	0.02	0.16	0.16	0.00	0.32	0.32
s, saturation flow rate [veh/h]	1593	1772	1736	1593	1772	1734	1593	1772	1722	1593	1772	1512
c, Capacity [veh/h]	133	492	482	248	620	606	55	674	655	14	628	536
d1, Uniform Delay [s]	40.43	32.50	32.50	38.00	22.97	22.97	42.97	20.67	20.68	44.39	27.77	27.79
k, delay calibration	0.11	0.38	0.38	0.33	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.49	39.71	40.17	48.68	0.60	0.62	14.23	2.00	2.08	20.10	20.29	22.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	1.02	1.02	1.01	0.49	0.49	0.69	0.43	0.43	0.43	0.92	0.92
d, Delay for Lane Group [s/veh]	49.93	72.21	72.67	86.68	23.58	23.59	57.20	22.67	22.76	64.49	48.06	50.78
Lane Group LOS	D	F	F	F	C	C	E	C	C	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.58	15.77	15.51	8.70	5.01	4.90	1.05	4.74	4.64	0.21	14.81	13.06
50th-Percentile Queue Length [ft/ln]	64.56	394.13	387.75	217.56	125.14	122.56	26.13	118.59	116.10	5.22	370.28	326.60
95th-Percentile Queue Length [veh/ln]	4.65	22.51	22.20	13.59	8.68	8.53	1.88	8.32	8.18	0.38	21.12	18.99
95th-Percentile Queue Length [ft/ln]	116.20	562.75	555.05	339.86	216.88	213.34	47.04	207.89	204.46	9.40	528.07	474.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.93	72.42	72.67	86.68	23.58	23.59	57.20	22.71	22.76	64.49	48.12	50.78
Movement LOS	D	E	E	F	C	C	E	C	C	E	D	D
d_A, Approach Delay [s/veh]	70.30			42.10			24.86			49.40		
Approach LOS	E			D			C			D		
d_I, Intersection Delay [s/veh]	49.86											
Intersection LOS	D											
Intersection V/C	0.788											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	333	644	644
d_b, Bicycle Delay [s]	23.47	31.25	20.67	20.67
l_b,int, Bicycle LOS Score for Intersection	2.463	2.263	2.064	2.444
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Mesa Linda St at Main St

Control Type:	Signalized	Delay (sec / veh):	10.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.283

Intersection Setup

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	460.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Base Volume Input [veh/h]	15	2	80	23	1	1	6	880	14	43	998	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	2	80	23	1	1	6	880	14	43	998	44
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	21	6	0	0	2	227	4	11	257	11
Total Analysis Volume [veh/h]	15	2	82	24	1	1	6	907	14	44	1029	45
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	29	0	0	20	0	10	16	0	9	15	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	14	0	15	14	0	29	28	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	9	5	5	1	57	57	3	59	59
g / C, Green / Cycle	0.10	0.10	0.05	0.05	0.01	0.63	0.63	0.04	0.66	0.66
(v / s)_i Volume / Saturation Flow Rate	0.01	0.05	0.01	0.00	0.00	0.18	0.18	0.03	0.21	0.21
s, saturation flow rate [veh/h]	1697	1506	1690	1506	1593	3373	1758	1593	3373	1734
c, Capacity [veh/h]	174	155	90	80	13	2119	1104	61	2220	1141
d1, Uniform Delay [s]	36.60	38.33	40.93	40.35	44.43	7.58	7.58	42.83	6.66	6.66
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.24	2.81	1.65	0.06	23.19	0.34	0.65	15.19	0.38	0.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.10	0.53	0.28	0.01	0.46	0.29	0.29	0.73	0.32	0.32
d, Delay for Lane Group [s/veh]	36.85	41.13	42.58	40.42	67.62	7.92	8.23	58.02	7.04	7.40
Lane Group LOS	D	D	D	D	E	A	A	E	A	A
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.35	1.82	0.57	0.02	0.22	2.45	2.66	1.21	2.65	2.84
50th-Percentile Queue Length [ft/ln]	8.69	45.42	14.22	0.55	5.40	61.36	66.42	30.35	66.28	71.08
95th-Percentile Queue Length [veh/ln]	0.63	3.27	1.02	0.04	0.39	4.42	4.78	2.18	4.77	5.12
95th-Percentile Queue Length [ft/ln]	15.64	81.76	25.59	1.00	9.72	110.44	119.55	54.62	119.30	127.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.85	36.85	41.13	42.58	42.58	40.42	67.62	8.02	8.23	58.02	7.15	7.40
Movement LOS	D	D	D	D	D	D	E	A	A	E	A	A
d_A, Approach Delay [s/veh]	40.40			42.50			8.41			9.17		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	10.67											
Intersection LOS	B											
Intersection V/C	0.283											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersectio	0.000	1.967	0.000	2.892
Crosswalk LOS	F	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	222	222	533
d_b, Bicycle Delay [s]	20.67	35.56	35.56	24.20
l_b,int, Bicycle LOS Score for Intersection	1.723	1.603	2.069	2.175
Bicycle LOS	A	A	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Cataba Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	27.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.435

Intersection Setup

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	260.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Base Volume Input [veh/h]	151	47	184	40	39	114	83	714	140	173	786	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	151	47	184	40	39	114	83	714	140	173	786	28
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	12	49	11	10	30	22	190	37	46	209	7
Total Analysis Volume [veh/h]	160	50	196	43	41	121	88	759	149	184	835	30
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	23	0	0	23	0	0	10	0	6	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	38	0	0	36	0	10	26	0	10	26	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	17	17	11	11	11	8	57	57	9	58	58
g / C, Green / Cycle	0.15	0.15	0.15	0.10	0.10	0.10	0.07	0.51	0.51	0.08	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.06	0.06	0.13	0.03	0.02	0.08	0.06	0.16	0.10	0.06	0.17	0.17
s, saturation flow rate [veh/h]	1593	1725	1506	1593	1772	1506	1593	4826	1506	2912	3373	1740
c, Capacity [veh/h]	246	266	233	162	180	153	110	2482	774	245	1786	922
d1, Uniform Delay [s]	41.98	41.98	45.21	45.63	45.45	48.28	50.46	15.40	14.40	49.23	14.65	14.66
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.09	1.01	8.05	0.87	0.64	8.81	12.44	0.32	0.55	4.56	0.47	0.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.41	0.84	0.27	0.23	0.79	0.80	0.31	0.19	0.75	0.32	0.32
d, Delay for Lane Group [s/veh]	43.07	42.99	53.25	46.49	46.08	57.09	62.90	15.72	14.96	53.79	15.12	15.57
Lane Group LOS	D	D	D	D	D	E	E	B	B	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.55	2.75	5.69	1.13	1.06	3.61	2.76	3.66	2.09	2.62	4.05	4.30
50th-Percentile Queue Length [ft/ln]	63.68	68.73	142.33	28.13	26.59	90.21	69.02	91.46	52.34	65.49	101.37	107.61
95th-Percentile Queue Length [veh/ln]	4.58	4.95	9.61	2.03	1.91	6.50	4.97	6.58	3.77	4.72	7.30	7.71
95th-Percentile Queue Length [ft/ln]	114.62	123.72	240.16	50.64	47.86	162.39	124.23	164.62	94.21	117.88	182.47	192.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.04	42.99	53.25	46.49	46.08	57.09	62.90	15.72	14.96	53.79	15.27	15.57
Movement LOS	D	D	D	D	D	E	E	B	B	D	B	B
d_A, Approach Delay [s/veh]	47.96			52.66			19.77			22.03		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	27.51											
Intersection LOS	C											
Intersection V/C	0.435											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	46.37	46.37	46.37	46.37
l_p,int, Pedestrian LOS Score for Intersectio	2.463	2.384	2.994	2.986
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	618	582	400	400
d_b, Bicycle Delay [s]	26.25	27.65	35.20	35.20
l_b,int, Bicycle LOS Score for Intersection	2.230	1.898	2.107	2.137
Bicycle LOS	B	A	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Keypointe Dr at Main St

Control Type:	Signalized	Delay (sec / veh):	22.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

Intersection Setup

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	741.32	180.00	100.00	366.47	192.10	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Base Volume Input [veh/h]	30	48	217	218	80	19	38	933	20	269	1013	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	48	217	218	80	19	38	933	20	269	1013	180
Peak Hour Factor	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	12	56	56	21	5	10	240	5	69	261	46
Total Analysis Volume [veh/h]	31	49	223	225	82	20	39	961	21	277	1043	185
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	6	10	0	5	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	36	0	0	36	0	10	26	0	28	44	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	25	25	25	25	25	3	36	36	18	50	50
g / C, Green / Cycle	0.27	0.27	0.27	0.27	0.27	0.03	0.40	0.40	0.20	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.02	0.03	0.15	0.20	0.06	0.02	0.20	0.01	0.17	0.25	0.25
s, saturation flow rate [veh/h]	1292	1772	1506	1107	1712	1593	4826	1506	1593	3373	1638
c, Capacity [veh/h]	338	483	410	329	467	55	1915	598	314	1887	917
d1, Uniform Delay [s]	29.56	24.49	27.96	33.92	25.32	42.98	20.44	16.60	35.10	11.57	11.57
k, delay calibration	0.11	0.11	0.11	0.14	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	0.09	1.12	3.19	0.23	15.07	0.94	0.11	7.99	0.74	1.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.09	0.10	0.54	0.68	0.22	0.70	0.50	0.04	0.88	0.44	0.44
d, Delay for Lane Group [s/veh]	29.67	24.58	29.08	37.11	25.56	58.05	21.38	16.71	43.09	12.31	13.09
Lane Group LOS	C	C	C	D	C	E	C	B	D	B	B
Critical Lane Group	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.55	0.78	4.13	4.94	1.69	1.08	5.05	0.28	6.46	4.66	4.72
50th-Percentile Queue Length [ft/ln]	13.86	19.55	103.19	123.53	42.18	27.03	126.32	6.96	161.51	116.42	118.07
95th-Percentile Queue Length [veh/ln]	1.00	1.41	7.43	8.59	3.04	1.95	8.74	0.50	10.63	8.20	8.29
95th-Percentile Queue Length [ft/ln]	24.94	35.20	185.73	214.67	75.93	48.65	218.49	12.53	265.72	204.90	207.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.67	24.58	29.08	37.11	25.56	25.56	58.05	21.38	16.71	43.09	12.47	13.09
Movement LOS	C	C	C	D	C	C	E	C	B	D	B	B
d_A, Approach Delay [s/veh]	28.41			33.50			22.68			18.19		
Approach LOS	C			C			C			B		
d_I, Intersection Delay [s/veh]	22.21											
Intersection LOS	C											
Intersection V/C	0.576											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.435	2.137	3.029	3.321
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	711	489	889
d_b, Bicycle Delay [s]	18.69	18.69	25.69	13.89
l_b,int, Bicycle LOS Score for Intersection	2.060	2.099	2.121	2.387
Bicycle LOS	B	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: I-15 SB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.454

Intersection Setup

Name							Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	639.00	100.00	100.00	200.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name							Main St			Main St		
Base Volume Input [veh/h]	0	0	0	470	0	291	0	1180	138	0	1131	342
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	470	0	291	0	1180	138	0	1131	342
Peak Hour Factor	1.0000	1.0000	1.0000	0.9650	1.0000	0.9650	1.0000	0.9650	0.9650	1.0000	0.9650	0.9650
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	122	0	75	0	306	36	0	293	89
Total Analysis Volume [veh/h]	0	0	0	487	0	302	0	1223	143	0	1172	354
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	7	0	4	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	5	0	5	0	10	0	0	10	0
Maximum Green [s]	0	0	0	32	0	32	0	20	0	0	20	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	46	0	94	0	44	0	0	44	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	10	0	0	0	3	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		90	90	90	90
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		22	22	60	60
g / C, Green / Cycle		0.24	0.24	0.67	0.67
(v / s)_i Volume / Saturation Flow Rate		0.17	0.20	0.25	0.24
s, saturation flow rate [veh/h]		2912	1506	4826	4826
c, Capacity [veh/h]		702	363	3234	3234
d1, Uniform Delay [s]		31.13	32.43	6.56	6.47
k, delay calibration		0.11	0.11	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		1.24	4.98	0.34	0.32
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.69	0.83	0.38	0.36
d, Delay for Lane Group [s/veh]		32.37	37.41	6.90	6.79
Lane Group LOS		C	D	A	A
Critical Lane Group		No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		4.83	6.59	3.02	2.85
50th-Percentile Queue Length [ft/ln]		120.84	164.76	75.39	71.21
95th-Percentile Queue Length [veh/ln]		8.44	10.80	5.43	5.13
95th-Percentile Queue Length [ft/ln]		210.98	270.02	135.70	128.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	32.37	0.00	37.41	0.00	6.90	0.00	0.00	6.79	0.00
Movement LOS				C		D		A			A	
d_A, Approach Delay [s/veh]	0.00			34.30			6.20			5.25		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	12.81											
Intersection LOS	B											
Intersection V/C	0.454											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	933	889	889
d_b, Bicycle Delay [s]	45.00	12.80	13.89	13.89
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.232	2.204
Bicycle LOS	D	A	B	B

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: I-15 NB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	14.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.551

Intersection Setup

Name	I-15 NB Ramps						Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	639.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	307.42
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	I-15 NB Ramps						Main St			Main St		
Base Volume Input [veh/h]	183	4	731	0	0	0	0	1372	251	0	1276	391
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	183	4	731	0	0	0	0	1372	251	0	1276	391
Peak Hour Factor	0.9580	0.9580	0.9580	1.0000	1.0000	1.0000	1.0000	0.9580	0.9580	1.0000	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	1	191	0	0	0	0	358	66	0	333	102
Total Analysis Volume [veh/h]	191	4	763	0	0	0	0	1432	262	0	1332	408
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	26	0	0	26	0	0	26	0	0	26	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	67	0	0	94	0	0	23	0	0	23	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No						No			No	
Maximum Recall		No						No			No	
Pedestrian Recall		No						No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R		C	C	R
C, Cycle Length [s]	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	27	27	27		55	55	55
g / C, Green / Cycle	0.30	0.30	0.30		0.62	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.12	0.25	0.25		0.30	0.28	0.27
s, saturation flow rate [veh/h]	1593	1508	1506		4826	4826	1506
c, Capacity [veh/h]	473	447	447		2965	2965	925
d1, Uniform Delay [s]	25.30	29.86	29.87		9.51	9.24	9.17
k, delay calibration	0.11	0.11	0.11		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	0.56	4.86	4.91		0.57	0.49	1.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.86	0.86		0.48	0.45	0.44
d, Delay for Lane Group [s/veh]	25.85	34.71	34.78		10.08	9.73	10.70
Lane Group LOS	C	C	C		B	A	B
Critical Lane Group	No	No	Yes		Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.27	8.18	8.19		4.72	4.26	4.16
50th-Percentile Queue Length [ft/ln]	81.72	204.43	204.64		118.03	106.53	103.92
95th-Percentile Queue Length [veh/ln]	5.88	12.87	12.88		8.28	7.65	7.48
95th-Percentile Queue Length [ft/ln]	147.10	321.68	321.95		207.12	191.17	187.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.85	34.71	34.74	0.00	0.00	0.00	0.00	10.08	0.00	0.00	9.73	10.70
Movement LOS	C	C	C					B			A	B
d_A, Approach Delay [s/veh]	32.97			0.00			8.57			9.96		
Approach LOS	C			A			A			A		
d_I, Intersection Delay [s/veh]	14.82											
Intersection LOS	B											
Intersection V/C	0.551											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.366	1.827	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1400	0	422	422
d_b, Bicycle Delay [s]	4.05	45.00	28.01	28.01
l_b,int, Bicycle LOS Score for Intersection	3.140	4.132	2.347	2.517
Bicycle LOS	C	D	B	B

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Mariposa Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	25.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.601

Intersection Setup

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	307.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Base Volume Input [veh/h]	100	95	62	142	96	202	283	1637	187	80	1309	107
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	95	62	142	96	202	283	1637	187	80	1309	107
Peak Hour Factor	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	24	16	37	25	52	73	421	48	21	337	28
Total Analysis Volume [veh/h]	103	98	64	146	99	208	291	1684	192	82	1347	110
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	36	0	5	36	0	5	16	0	6	16	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	94	40	0	94	40	0	31	40	0	10	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	0	0	31	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	28	28	28	28	19	45	45	6	32	32
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.21	0.50	0.50	0.06	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.10	0.10	0.12	0.19	0.18	0.29	0.29	0.05	0.22	0.22
s, saturation flow rate [veh/h]	1072	1656	1224	1582	1593	4826	1655	1593	4826	1685
c, Capacity [veh/h]	211	509	340	486	329	2389	819	102	1703	595
d1, Uniform Delay [s]	38.40	23.92	31.67	26.78	34.68	16.15	16.16	41.54	24.27	24.29
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.76	0.36	0.86	1.36	7.90	1.06	3.05	13.29	1.81	5.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.32	0.43	0.63	0.89	0.58	0.59	0.80	0.63	0.64
d, Delay for Lane Group [s/veh]	40.16	24.28	32.52	28.14	42.58	17.21	19.21	54.83	26.08	29.40
Lane Group LOS	D	C	C	C	D	B	B	D	C	C
Critical Lane Group	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.28	2.64	2.87	5.69	6.76	6.61	7.26	2.15	6.44	7.31
50th-Percentile Queue Length [ft/ln]	56.94	66.10	71.69	142.13	168.97	165.17	181.44	53.78	160.98	182.70
95th-Percentile Queue Length [veh/ln]	4.10	4.76	5.16	9.60	11.02	10.82	11.68	3.87	10.60	11.74
95th-Percentile Queue Length [ft/ln]	102.49	118.98	129.05	239.89	275.56	270.55	291.90	96.80	265.02	293.53

Movement, Approach, & Intersection Results

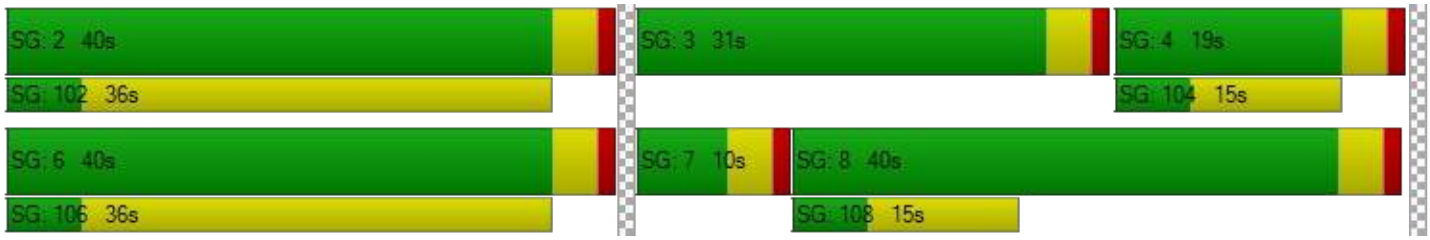
d_M, Delay for Movement [s/veh]	40.16	24.28	24.28	32.52	28.14	28.14	42.58	17.55	19.21	54.83	26.74	29.40
Movement LOS	D	C	C	C	C	C	D	B	B	D	C	C
d_A, Approach Delay [s/veh]	30.45			29.55			21.06			28.43		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	25.05											
Intersection LOS	C											
Intersection V/C	0.601											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.149	2.251	3.412	3.430
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	800	800	333
d_b, Bicycle Delay [s]	16.20	16.20	16.20	31.25
l_b,int, Bicycle LOS Score for Intersection	1.997	2.307	2.453	2.194
Bicycle LOS	A	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Mountain Vista Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	15.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.439

Intersection Setup

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	330.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Base Volume Input [veh/h]	63	4	43	68	7	18	35	1808	29	88	1511	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	63	4	43	68	7	18	35	1808	29	88	1511	48
Peak Hour Factor	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	1	11	18	2	5	9	465	7	23	389	12
Total Analysis Volume [veh/h]	65	4	44	70	7	19	36	1862	30	91	1556	49
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	10	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	10	0	10	0	6	10	0	5	10	0
Amber [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	40	40	0	47	0	10	33	0	10	33	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	31	0	38	0	0	24	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No	No		No		No	No		No	No	
Maximum Recall		No	No		No		No	No		No	No	
Pedestrian Recall		No	No		No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	L	C	C	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	24	10	10	4	84	84	10	91	91
g / C, Green / Cycle	0.08	0.08	0.08	0.18	0.07	0.07	0.03	0.65	0.65	0.08	0.70	0.70
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.00	0.02	0.03	0.03	0.01	0.32	0.32	0.06	0.36	0.04
s, saturation flow rate [veh/h]	1434	1518	1594	2399	1434	1460	2621	4343	1578	1434	4343	1355
c, Capacity [veh/h]	109	115	121	441	108	110	73	2817	1023	111	3031	946
d1, Uniform Delay [s]	56.78	56.71	55.63	44.09	57.50	57.54	62.26	11.79	11.79	59.10	9.25	6.16
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.51	1.32	0.11	0.10	2.77	2.84	4.98	0.62	1.69	13.80	0.62	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.28	0.03	0.10	0.44	0.45	0.49	0.49	0.49	0.82	0.51	0.05
d, Delay for Lane Group [s/veh]	58.29	58.02	55.74	44.19	60.27	60.39	67.25	12.41	13.49	72.90	9.87	6.26
Lane Group LOS	E	E	E	D	E	E	E	B	B	E	A	A
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.06	1.05	0.13	0.60	1.57	1.64	0.64	6.82	7.73	3.38	6.65	0.43
50th-Percentile Queue Length [ft/ln]	26.49	26.37	3.15	15.05	39.14	40.88	15.97	170.41	193.37	84.55	166.22	10.86
95th-Percentile Queue Length [veh/ln]	1.91	1.90	0.23	1.08	2.82	2.94	1.15	11.10	12.30	6.09	10.88	0.78
95th-Percentile Queue Length [ft/ln]	47.68	47.46	5.67	27.08	70.45	73.58	28.75	277.45	307.40	152.19	271.93	19.55

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	58.16	55.74	44.19	60.31	60.39	60.39	67.25	12.68	13.49	72.90	9.87	6.26
Movement LOS	E	E	D	E	E	E	E	B	B	E	A	A
d_A, Approach Delay [s/veh]	52.63			60.33			13.72			13.15		
Approach LOS	D			E			B			B		
d_I, Intersection Delay [s/veh]	15.78											
Intersection LOS	B											
Intersection V/C	0.439											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.646	2.195	3.333	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	662	446	446
d_b, Bicycle Delay [s]	33.98	29.11	39.23	39.23
l_b,int, Bicycle LOS Score for Intersection	1.653	1.718	2.355	2.492
Bicycle LOS	A	A	B	B

Sequence

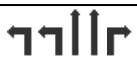
Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Escondido Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	39.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.810

Intersection Setup

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	661.02
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	382.98
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Base Volume Input [veh/h]	473	221	302	49	37	224	45	1215	597	408	984	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	473	221	302	49	37	224	45	1215	597	408	984	7
Peak Hour Factor	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	122	57	78	13	10	58	12	313	154	105	253	2
Total Analysis Volume [veh/h]	487	228	311	50	38	231	46	1251	615	420	1013	7
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	0	3	8	8	7	4	0
Auxiliary Signal Groups			6,7						1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	10	5	10	0
Maximum Green [s]	5	10	10	6	10	0	6	10	10	6	10	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	27	61	61	10	44	0	13	30	30	19	36	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	5	0	5	0
Pedestrian Clearance [s]	0	27	27	0	24	0	0	21	21	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No		No	No	No	No	No	
Maximum Recall	No	No	No	No	No		No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	42	66	5	23	4	37	64	21	53	53
g / C, Green / Cycle	0.19	0.35	0.55	0.04	0.19	0.04	0.31	0.54	0.17	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.17	0.13	0.21	0.03	0.17	0.03	0.26	0.41	0.14	0.30	0.00
s, saturation flow rate [veh/h]	2912	1772	1506	1593	1538	1593	4826	1506	2912	3373	1506
c, Capacity [veh/h]	558	614	829	62	298	58	1499	807	497	1501	670
d1, Uniform Delay [s]	47.08	29.42	15.28	57.21	47.29	57.36	38.49	21.87	48.21	26.42	18.57
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.42	0.37	0.28	20.99	9.93	20.84	5.63	6.74	4.01	2.45	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.37	0.38	0.81	0.90	0.79	0.83	0.76	0.84	0.67	0.01
d, Delay for Lane Group [s/veh]	51.50	29.80	15.56	78.20	57.21	78.20	44.12	28.61	52.22	28.87	18.60
Lane Group LOS	D	C	B	E	E	E	D	C	D	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	7.38	5.01	4.80	1.87	8.65	1.72	12.10	14.62	6.35	11.80	0.11
50th-Percentile Queue Length [ft/ln]	184.45	125.33	120.03	46.67	216.19	43.04	302.55	365.47	158.64	295.04	2.87
95th-Percentile Queue Length [veh/ln]	11.83	8.68	8.39	3.36	13.47	3.10	17.81	20.89	10.48	17.44	0.21
95th-Percentile Queue Length [ft/ln]	295.81	217.12	209.86	84.00	336.76	77.46	445.18	522.23	261.93	435.89	5.17

Movement, Approach, & Intersection Results

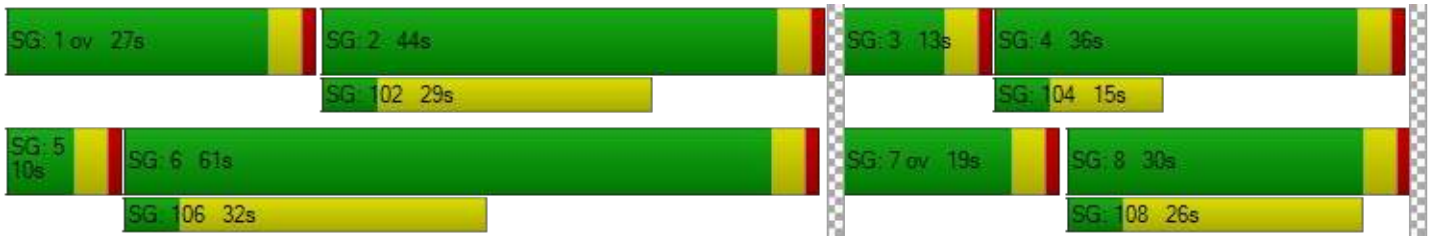
d_M, Delay for Movement [s/veh]	51.50	29.80	15.56	78.20	57.21	57.21	78.20	44.12	28.61	52.22	28.87	18.60
Movement LOS	D	C	B	E	E	E	E	D	C	D	C	B
d_A, Approach Delay [s/veh]	35.78			60.50			39.95			35.63		
Approach LOS	D			E			D			D		
d_I, Intersection Delay [s/veh]	39.11											
Intersection LOS	D											
Intersection V/C	0.810											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.809	2.150	3.185	3.113
Crosswalk LOS	C	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	950	667	433	533
d_b, Bicycle Delay [s]	16.54	26.67	36.82	32.27
l_b,int, Bicycle LOS Score for Intersection	3.253	2.086	2.611	2.748
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Topaz Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	17.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.550

Intersection Setup

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	1279.32	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Base Volume Input [veh/h]	162	33	59	53	34	46	51	1257	202	55	1191	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	162	33	59	53	34	46	51	1257	202	55	1191	57
Peak Hour Factor	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	9	15	14	9	12	13	326	52	14	309	15
Total Analysis Volume [veh/h]	168	34	61	55	35	48	53	1305	210	57	1237	59
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	6	10	0	5	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	33	0	38	19	0	38	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	20	20	20	4	54	54	4	54	54
g / C, Green / Cycle	0.22	0.22	0.22	0.22	0.04	0.60	0.60	0.04	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.13	0.06	0.04	0.05	0.03	0.39	0.14	0.04	0.37	0.37
s, saturation flow rate [veh/h]	1315	1591	1301	1608	1593	3373	1506	1593	1772	1743
c, Capacity [veh/h]	280	352	269	356	67	2025	904	72	1069	1052
d1, Uniform Delay [s]	37.08	29.03	34.34	28.78	42.73	11.73	8.36	42.54	11.19	11.21
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.06	0.41	0.37	0.33	18.64	1.60	0.60	17.23	2.60	2.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.60	0.27	0.20	0.23	0.79	0.64	0.23	0.79	0.61	0.61
d, Delay for Lane Group [s/veh]	39.14	29.44	34.71	29.12	61.37	13.32	8.96	59.77	13.79	13.86
Lane Group LOS	D	C	C	C	E	B	A	E	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.69	1.72	1.09	1.49	1.50	7.99	1.88	1.59	8.01	7.92
50th-Percentile Queue Length [ft/ln]	92.23	42.93	27.26	37.14	37.53	199.83	47.02	39.65	200.14	198.06
95th-Percentile Queue Length [veh/ln]	6.64	3.09	1.96	2.67	2.70	12.63	3.39	2.85	12.65	12.54
95th-Percentile Queue Length [ft/ln]	166.02	77.27	49.06	66.86	67.55	315.75	84.64	71.36	316.15	313.46

Movement, Approach, & Intersection Results

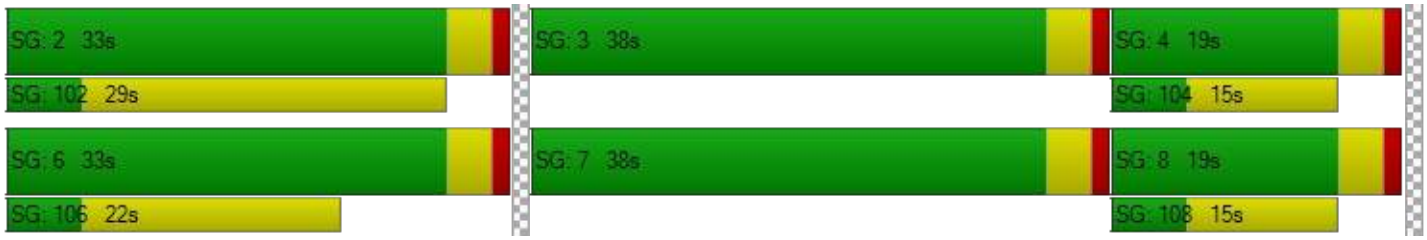
d_M, Delay for Movement [s/veh]	39.14	29.44	29.44	34.71	29.12	29.12	61.37	13.32	8.96	59.77	13.82	13.86
Movement LOS	D	C	C	C	C	C	E	B	A	E	B	B
d_A, Approach Delay [s/veh]	35.63			31.35			14.36			15.76		
Approach LOS	D			C			B			B		
d_I, Intersection Delay [s/veh]	17.32											
Intersection LOS	B											
Intersection V/C	0.550											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.125	2.034	3.255	2.921
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	644	333	333
d_b, Bicycle Delay [s]	20.67	20.67	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	1.994	1.787	2.853	2.676
Bicycle LOS	A	A	C	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX D-2

INTERSECTION ANALYSIS WORKSHEETS – OPENING YEAR 2026 CUMULATIVE

Hesperia Big Box Retail and Fuel Station

Vistro File: K:\...\Hesperia Big Box Retail and Fuel Station_AM.vistro

Scenario 2 OY CUM AM

Report File: K:\...\2. OY CUM AM.pdf

12/16/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Keypointe Dr at Amargosa Rd	Two-way stop	HCM 7th Edition	NB Left	0.013	13.0	B
2	US-395 at Phelan Rd/Main St	Signalized	HCM 7th Edition	NB Left	0.638	32.0	C
3	Mesa Linda St at Main St	Signalized	HCM 7th Edition	EB Left	0.319	12.9	B
4	Cataba Rd at Main St	Signalized	HCM 7th Edition	EB Left	0.340	21.0	C
5	Keypointe Dr at Main St	Signalized	HCM 7th Edition	EB Left	0.398	12.9	B
6	I-15 SB Ramps at Main St	Signalized	HCM 7th Edition	SB Right	0.408	10.5	B
7	I-15 NB Ramps at Main St	Signalized	HCM 7th Edition	NB Right	0.490	10.1	B
8	Mariposa Rd at Main St	Signalized	HCM 7th Edition	WB Left	0.512	20.6	C
9	Mountain Vista Ave at Main St	Signalized	HCM 7th Edition	WB Left	0.454	13.4	B
10	Escondido Ave at Main St	Signalized	HCM 7th Edition	SB Left	0.578	27.6	C
11	Topaz Ave at Main St	Signalized	HCM 7th Edition	WB Left	0.620	26.0	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Keypointe Dr at Amargosa Rd

Control Type:	Two-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	1	0	1
Exit Pocket Length [ft]	0.00	100.00	0.00	49.21	0.00	477.13
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Base Volume Input [veh/h]	5	142	77	5	108	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	29	40	0	7	9
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	177	120	5	119	60
Peak Hour Factor	0.8080	0.8080	0.8080	0.8080	0.8080	0.8080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	55	37	2	37	19
Total Analysis Volume [veh/h]	6	219	149	6	147	74
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.23	0.00	0.00	0.10	0.00
d_M, Delay for Movement [s/veh]	12.96	9.81	0.00	0.00	7.71	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.87	0.00	0.00	0.27	0.13
95th-Percentile Queue Length [ft/ln]	0.99	21.74	0.00	0.00	6.66	3.33
d_A, Approach Delay [s/veh]	9.89		0.00		5.13	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.59					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: US-395 at Phelan Rd/Main St

Control Type:	Signalized	Delay (sec / veh):	32.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.638

Intersection Setup

Name	US-395			US-395			Phelan Rd			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395			US-395			Phelan Rd			Main St		
Base Volume Input [veh/h]	48	516	8	230	702	21	28	702	100	10	296	183
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	22	0	0	0	0	13	0	90	4	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	537	30	239	730	22	29	743	104	100	312	190
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	138	8	62	188	6	7	191	27	26	80	49
Total Analysis Volume [veh/h]	52	554	31	246	753	23	30	766	107	103	322	196
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	16	28	0	16	28	0	15	14	0	16	14	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	33	17	0	39	23	0	16	24	0	10	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	18	18	16	30	30	3	33	33	7	38	38
g / C, Green / Cycle	0.04	0.20	0.20	0.18	0.33	0.33	0.03	0.37	0.37	0.08	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.03	0.17	0.17	0.15	0.22	0.22	0.02	0.25	0.25	0.06	0.15	0.16
s, saturation flow rate [veh/h]	1593	1772	1739	1593	1772	1753	1593	1772	1697	1593	1772	1552
c, Capacity [veh/h]	66	348	342	284	590	584	47	650	623	128	740	648
d1, Uniform Delay [s]	42.74	34.84	34.86	35.96	25.66	25.66	43.18	24.10	24.10	40.67	18.04	18.09
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	18.17	5.69	5.87	7.92	1.27	1.29	13.15	5.80	6.05	10.92	1.42	1.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.85	0.85	0.87	0.66	0.66	0.63	0.69	0.69	0.80	0.37	0.38
d, Delay for Lane Group [s/veh]	60.91	40.54	40.72	43.88	26.94	26.95	56.32	29.90	30.15	51.59	19.46	19.76
Lane Group LOS	E	D	D	D	C	C	E	C	C	D	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.47	6.64	6.54	5.76	7.10	7.03	0.83	8.76	8.43	2.60	4.07	3.68
50th-Percentile Queue Length [ft/ln]	36.69	165.88	163.62	144.10	177.44	175.66	20.66	219.00	210.87	65.07	101.84	91.91
95th-Percentile Queue Length [veh/ln]	2.64	10.86	10.74	9.70	11.47	11.37	1.49	13.61	13.20	4.69	7.33	6.62
95th-Percentile Queue Length [ft/ln]	66.04	271.49	268.51	242.53	286.67	284.34	37.20	340.35	329.94	117.13	183.31	165.44

Movement, Approach, & Intersection Results

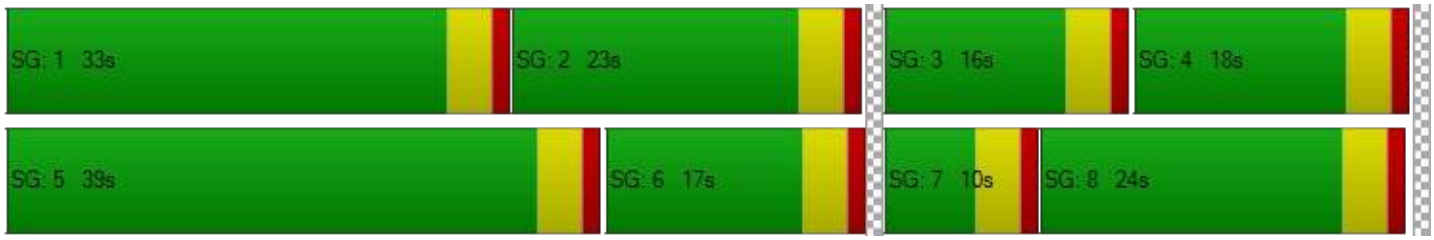
d_M, Delay for Movement [s/veh]	60.91	40.62	40.72	43.88	26.95	26.95	56.32	30.01	30.15	51.59	19.50	19.76
Movement LOS	E	D	D	D	C	C	E	C	C	D	B	B
d_A, Approach Delay [s/veh]	42.28			31.02			30.90			24.91		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	32.05											
Intersection LOS	C											
Intersection V/C	0.638											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	289	422	444	311
d_b, Bicycle Delay [s]	32.94	28.01	27.22	32.09
l_b,int, Bicycle LOS Score for Intersection	2.085	2.403	2.305	2.072
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Mesa Linda St at Main St

Control Type:	Signalized	Delay (sec / veh):	12.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.319

Intersection Setup

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	460.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Base Volume Input [veh/h]	2	1	26	36	0	11	5	915	9	57	587	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	14	0	0	0	0	35	0	57	94	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1	41	37	0	11	5	987	9	116	704	18
Peak Hour Factor	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	10	9	0	3	1	249	2	29	178	5
Total Analysis Volume [veh/h]	2	1	41	37	0	11	5	998	9	117	712	18
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	29	0	0	20	0	10	16	0	9	15	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	14	0	24	14	0	29	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	7	7	7	1	52	52	8	60	60
g / C, Green / Cycle	0.07	0.07	0.08	0.08	0.01	0.58	0.58	0.09	0.66	0.66
(v / s)_i Volume / Saturation Flow Rate	0.00	0.03	0.02	0.01	0.00	0.20	0.20	0.07	0.14	0.14
s, saturation flow rate [veh/h]	1714	1506	1687	1506	1593	3373	1763	1593	3373	1749
c, Capacity [veh/h]	129	113	131	117	12	1946	1018	147	2233	1158
d1, Uniform Delay [s]	38.56	39.57	39.13	38.55	44.48	10.01	10.01	40.01	6.00	6.00
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.07	1.94	1.16	0.34	22.58	0.48	0.91	9.32	0.22	0.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.02	0.36	0.28	0.09	0.43	0.34	0.34	0.80	0.22	0.22
d, Delay for Lane Group [s/veh]	38.63	41.52	40.29	38.90	67.05	10.49	10.92	49.34	6.22	6.42
Lane Group LOS	D	D	D	D	E	B	B	D	A	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.06	0.91	0.81	0.23	0.18	3.28	3.56	2.88	1.62	1.75
50th-Percentile Queue Length [ft/ln]	1.59	22.86	20.14	5.87	4.59	82.07	88.92	72.07	40.51	43.78
95th-Percentile Queue Length [veh/ln]	0.11	1.65	1.45	0.42	0.33	5.91	6.40	5.19	2.92	3.15
95th-Percentile Queue Length [ft/ln]	2.85	41.15	36.24	10.56	8.27	147.72	160.05	129.73	72.92	78.81

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.63	38.63	41.52	40.29	40.29	38.90	67.05	10.64	10.92	49.34	6.28	6.42
Movement LOS	D	D	D	D	D	D	E	B	B	D	A	A
d_A, Approach Delay [s/veh]	41.32			39.97			10.92			12.23		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	12.89											
Intersection LOS	B											
Intersection V/C	0.319											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersectio	0.000	1.965	0.000	2.863
Crosswalk LOS	F	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	222	222	333
d_b, Bicycle Delay [s]	20.67	35.56	35.56	31.25
l_b,int, Bicycle LOS Score for Intersection	1.632	1.639	2.116	2.025
Bicycle LOS	A	A	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Cataba Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	21.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.340

Intersection Setup

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	260.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Base Volume Input [veh/h]	50	13	109	34	9	46	63	740	87	138	546	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	7	0	3	12	36	0	0	148	29
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	14	113	42	9	51	78	806	90	144	716	48
Peak Hour Factor	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	4	30	11	2	13	20	211	24	38	187	13
Total Analysis Volume [veh/h]	54	15	118	44	9	53	82	842	94	150	748	50
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	23	0	0	23	0	0	10	0	6	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	36	0	0	36	0	12	26	0	12	26	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	11	11	10	10	10	7	66	66	8	66	66
g / C, Green / Cycle	0.10	0.10	0.10	0.09	0.09	0.09	0.06	0.60	0.60	0.07	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.08	0.03	0.01	0.04	0.05	0.17	0.06	0.05	0.16	0.16
s, saturation flow rate [veh/h]	1593	1722	1506	1593	1772	1506	1593	4826	1506	2912	3373	1715
c, Capacity [veh/h]	158	171	149	140	156	133	103	2874	897	209	2032	1034
d1, Uniform Delay [s]	45.59	45.58	48.43	47.03	45.97	47.40	50.72	10.90	9.60	49.96	10.30	10.31
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.66	0.60	8.97	1.26	0.15	1.93	12.80	0.26	0.23	4.56	0.31	0.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.21	0.79	0.31	0.06	0.40	0.79	0.29	0.10	0.72	0.26	0.26
d, Delay for Lane Group [s/veh]	46.24	46.18	57.40	48.29	46.12	49.33	63.52	11.16	9.83	54.52	10.61	10.93
Lane Group LOS	D	D	E	D	D	D	E	B	A	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.87	0.93	3.53	1.18	0.23	1.44	2.59	3.28	1.01	2.15	2.98	3.13
50th-Percentile Queue Length [ft/ln]	21.67	23.18	88.20	29.50	5.82	36.10	64.70	82.11	25.17	53.68	74.56	78.36
95th-Percentile Queue Length [veh/ln]	1.56	1.67	6.35	2.12	0.42	2.60	4.66	5.91	1.81	3.86	5.37	5.64
95th-Percentile Queue Length [ft/ln]	39.01	41.73	158.76	53.09	10.47	64.99	116.46	147.80	45.30	96.62	134.21	141.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.24	46.18	57.40	48.29	46.12	49.33	63.52	11.16	9.83	54.52	10.71	10.93
Movement LOS	D	D	E	D	D	D	E	B	A	D	B	B
d_A, Approach Delay [s/veh]	53.27			48.63			15.26			17.65		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	20.97											
Intersection LOS	C											
Intersection V/C	0.340											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	46.37	46.37	46.37	46.37
l_p,int, Pedestrian LOS Score for Intersectio	2.397	2.360	2.965	2.975
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	582	582	400	400
d_b, Bicycle Delay [s]	27.65	27.65	35.20	35.20
l_b,int, Bicycle LOS Score for Intersection	1.868	1.735	2.120	2.081
Bicycle LOS	A	A	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Keypointe Dr at Main St

Control Type:	Signalized	Delay (sec / veh):	12.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.398

Intersection Setup

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	741.32	180.00	100.00	366.47	192.10	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Base Volume Input [veh/h]	7	10	56	113	24	10	20	944	9	128	634	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	7	0	0	0	43	0	0	177	29
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	10	58	125	25	10	21	1025	9	133	836	154
Peak Hour Factor	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	3	15	32	6	3	5	262	2	34	213	39
Total Analysis Volume [veh/h]	7	10	59	128	26	10	21	1047	9	136	854	157
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	31	10	0	5	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	36	0	0	36	0	35	26	0	28	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	13	13	13	13	2	55	55	9	63	63
g / C, Green / Cycle	0.15	0.15	0.15	0.15	0.15	0.02	0.61	0.61	0.11	0.70	0.70
(v / s)_i Volume / Saturation Flow Rate	0.01	0.01	0.04	0.10	0.02	0.01	0.22	0.01	0.09	0.20	0.20
s, saturation flow rate [veh/h]	1372	1772	1506	1332	1689	1593	4826	1506	1593	3373	1635
c, Capacity [veh/h]	221	259	220	235	247	37	2967	926	168	2352	1140
d1, Uniform Delay [s]	36.39	32.98	34.13	38.84	33.51	43.53	8.52	6.71	39.37	5.16	5.17
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	0.06	0.64	1.95	0.27	13.31	0.33	0.02	8.91	0.31	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.03	0.04	0.27	0.54	0.15	0.57	0.35	0.01	0.81	0.29	0.29
d, Delay for Lane Group [s/veh]	36.45	33.04	34.78	40.79	33.78	56.83	8.85	6.73	48.28	5.47	5.81
Lane Group LOS	D	C	C	D	C	E	A	A	D	A	A
Critical Lane Group	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.14	0.19	1.17	2.84	0.70	0.59	3.10	0.07	3.31	2.10	2.15
50th-Percentile Queue Length [ft/ln]	3.52	4.75	29.31	71.12	17.43	14.85	77.48	1.65	82.81	52.45	53.69
95th-Percentile Queue Length [veh/ln]	0.25	0.34	2.11	5.12	1.25	1.07	5.58	0.12	5.96	3.78	3.87
95th-Percentile Queue Length [ft/ln]	6.34	8.54	52.76	128.02	31.37	26.73	139.46	2.97	149.06	94.40	96.64

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.45	33.04	34.78	40.79	33.78	33.78	56.83	8.85	6.73	48.28	5.54	5.81
Movement LOS	D	C	C	D	C	C	E	A	A	D	A	A
d_A, Approach Delay [s/veh]	34.70			39.25			9.77			10.65		
Approach LOS	C			D			A			B		
d_I, Intersection Delay [s/veh]	12.91											
Intersection LOS	B											
Intersection V/C	0.398											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.350	2.056	2.974	3.109
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	711	489	333
d_b, Bicycle Delay [s]	18.69	18.69	25.69	31.25
l_b,int, Bicycle LOS Score for Intersection	1.685	1.830	2.152	2.190
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: I-15 SB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	10.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.408

Intersection Setup

Name							Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	639.00	100.00	100.00	200.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name							Main St			Main St		
Base Volume Input [veh/h]	0	0	0	235	0	172	0	1032	85	0	719	503
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0400	1.0000	1.0400	1.0000	1.0400	1.0400	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	6	0	68	0	33	16	0	138	4
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	250	0	247	0	1106	104	0	886	527
Peak Hour Factor	1.0000	1.0000	1.0000	0.9640	1.0000	0.9640	1.0000	0.9640	0.9640	1.0000	0.9640	0.9640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	65	0	64	0	287	27	0	230	137
Total Analysis Volume [veh/h]	0	0	0	259	0	256	0	1147	108	0	919	547
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	7	0	4	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	5	0	5	0	10	0	0	10	0
Maximum Green [s]	0	0	0	32	0	32	0	20	0	0	20	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	44	0	94	0	46	0	0	46	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	10	0	0	0	3	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		90	90	90	90
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		18	18	64	64
g / C, Green / Cycle		0.20	0.20	0.71	0.71
(v / s)_i Volume / Saturation Flow Rate		0.09	0.17	0.24	0.19
s, saturation flow rate [veh/h]		2912	1506	4826	4826
c, Capacity [veh/h]		591	306	3418	3418
d1, Uniform Delay [s]		31.38	34.45	5.03	4.73
k, delay calibration		0.11	0.11	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.51	6.08	0.27	0.19
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.44	0.84	0.34	0.27
d, Delay for Lane Group [s/veh]		31.90	40.53	5.29	4.93
Lane Group LOS		C	D	A	A
Critical Lane Group		No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		2.47	5.78	2.29	1.72
50th-Percentile Queue Length [ft/ln]		61.67	144.43	57.22	43.11
95th-Percentile Queue Length [veh/ln]		4.44	9.72	4.12	3.10
95th-Percentile Queue Length [ft/ln]		111.00	242.97	102.99	77.60

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	31.90	0.00	40.53	0.00	5.29	0.00	0.00	4.93	0.00
Movement LOS				C		D		A			A	
d_A, Approach Delay [s/veh]	0.00			36.19			4.85			3.13		
Approach LOS	A			D			A			A		
d_I, Intersection Delay [s/veh]	10.49											
Intersection LOS	B											
Intersection V/C	0.408											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	889	933	933
d_b, Bicycle Delay [s]	45.00	13.89	12.80	12.80
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.190	2.065
Bicycle LOS	D	A	B	B

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: I-15 NB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	10.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	I-15 NB Ramps						Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	639.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	307.42
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	I-15 NB Ramps						Main St			Main St		
Base Volume Input [veh/h]	57	2	383	0	0	0	0	1005	274	0	1117	472
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0000	1.0000	1.0000	1.0000	1.0400	1.0400	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	68	0	6	0	0	0	0	24	16	0	74	4
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	127	2	404	0	0	0	0	1069	301	0	1236	495
Peak Hour Factor	0.9470	0.9470	0.9470	1.0000	1.0000	1.0000	1.0000	0.9470	0.9470	1.0000	0.9470	0.9470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	1	107	0	0	0	0	282	79	0	326	131
Total Analysis Volume [veh/h]	134	2	427	0	0	0	0	1129	318	0	1305	523
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	26	0	0	26	0	0	26	0	0	26	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	31	0	0	94	0	0	59	0	0	59	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No						No			No	
Maximum Recall		No						No			No	
Pedestrian Recall		No						No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R		C	C	R
C, Cycle Length [s]	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	16	16	16		66	66	66
g / C, Green / Cycle	0.17	0.17	0.17		0.74	0.74	0.74
(v / s)_i Volume / Saturation Flow Rate	0.08	0.14	0.14		0.23	0.27	0.35
s, saturation flow rate [veh/h]	1593	1508	1506		4826	4826	1506
c, Capacity [veh/h]	280	265	264		3550	3550	1108
d1, Uniform Delay [s]	33.40	35.67	35.67		4.11	4.31	4.82
k, delay calibration	0.11	0.11	0.11		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	1.27	5.90	5.90		0.24	0.29	1.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.81	0.81		0.32	0.37	0.47
d, Delay for Lane Group [s/veh]	34.67	41.56	41.57		4.34	4.61	6.27
Lane Group LOS	C	D	D		A	A	A
Critical Lane Group	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.70	4.88	4.87		1.90	2.30	3.41
50th-Percentile Queue Length [ft/ln]	67.40	121.90	121.75		47.41	57.60	85.28
95th-Percentile Queue Length [veh/ln]	4.85	8.50	8.49		3.41	4.15	6.14
95th-Percentile Queue Length [ft/ln]	121.32	212.44	212.23		85.34	103.69	153.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.67	41.56	41.57	0.00	0.00	0.00	0.00	4.34	0.00	0.00	4.61	6.27
Movement LOS	C	D	D					A			A	A
d_A, Approach Delay [s/veh]	39.93			0.00			3.43			5.08		
Approach LOS	D			A			A			A		
d_I, Intersection Delay [s/veh]	10.12											
Intersection LOS	B											
Intersection V/C	0.490											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.270	1.937	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	0	1222	1222
d_b, Bicycle Delay [s]	22.05	45.00	6.81	6.81
l_b,int, Bicycle LOS Score for Intersection	2.489	4.132	2.181	2.565
Bicycle LOS	B	D	B	B

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Mariposa Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	20.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.512

Intersection Setup

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	307.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Base Volume Input [veh/h]	70	46	49	67	114	162	122	1115	114	102	1301	54
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	1	0	9	13	17	0	0	69	1
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	48	51	71	119	177	140	1177	119	106	1422	57
Peak Hour Factor	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	12	13	18	31	45	36	302	31	27	365	15
Total Analysis Volume [veh/h]	75	49	52	73	122	182	144	1210	122	109	1461	59
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	36	0	5	36	0	5	15	0	27	16	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	94	40	0	94	40	0	31	19	0	31	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	0	0	31	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	25	25	25	25	10	45	45	8	43	43
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.11	0.50	0.50	0.09	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.07	0.06	0.06	0.19	0.09	0.20	0.21	0.07	0.23	0.23
s, saturation flow rate [veh/h]	1075	1624	1293	1602	1593	4826	1667	1593	4826	1727
c, Capacity [veh/h]	179	455	355	449	177	2417	835	137	2296	822
d1, Uniform Delay [s]	39.87	24.87	29.59	28.79	39.11	14.10	14.12	40.37	16.10	16.10
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.55	0.24	0.28	1.80	8.79	0.51	1.49	10.07	0.74	2.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.42	0.22	0.21	0.68	0.82	0.41	0.41	0.80	0.49	0.49
d, Delay for Lane Group [s/veh]	41.42	25.12	29.87	30.59	47.91	14.62	15.61	50.44	16.84	18.17
Lane Group LOS	D	C	C	C	D	B	B	D	B	B
Critical Lane Group	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.68	1.66	1.33	5.90	3.49	4.09	4.48	2.72	5.11	5.79
50th-Percentile Queue Length [ft/ln]	41.91	41.53	33.25	147.58	87.34	102.14	111.97	67.97	127.80	144.86
95th-Percentile Queue Length [veh/ln]	3.02	2.99	2.39	9.89	6.29	7.35	7.95	4.89	8.82	9.74
95th-Percentile Queue Length [ft/ln]	75.43	74.75	59.85	247.20	157.22	183.85	198.74	122.35	220.51	243.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.42	25.12	25.12	29.87	30.59	30.59	47.91	14.80	15.61	50.44	17.15	18.17
Movement LOS	D	C	C	C	C	C	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	32.07			30.45			18.10			19.42		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	20.63											
Intersection LOS	C											
Intersection V/C	0.512											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.114	2.146	3.303	3.276
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	800	333	333
d_b, Bicycle Delay [s]	16.20	16.20	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	1.850	2.182	2.168	2.232
Bicycle LOS	A	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Mountain Vista Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	13.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.454

Intersection Setup

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	330.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Base Volume Input [veh/h]	13	0	18	102	3	31	26	1196	8	59	1459	94
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	18	0	0	70	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	0	19	106	3	32	27	1262	8	61	1587	98
Peak Hour Factor	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	5	28	1	8	7	331	2	16	417	26
Total Analysis Volume [veh/h]	15	0	20	111	3	34	28	1326	8	64	1667	103
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	10	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	10	0	10	0	6	10	0	5	10	0
Amber [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	40	40	0	47	0	10	33	0	10	33	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	31	0	38	0	0	24	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No	No		No		No	No		No	No	
Maximum Recall		No	No		No		No	No		No	No	
Pedestrian Recall		No	No		No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	L	C	C	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	7	7	18	10	10	3	90	90	7	94	94
g / C, Green / Cycle	0.06	0.06	0.06	0.14	0.08	0.08	0.02	0.69	0.69	0.05	0.72	0.72
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.00	0.01	0.05	0.05	0.01	0.22	0.22	0.04	0.38	0.08
s, saturation flow rate [veh/h]	1434	1518	1594	2399	1434	1443	2621	4343	1588	1434	4343	1355
c, Capacity [veh/h]	80	84	89	339	111	111	64	2994	1095	79	3126	975
d1, Uniform Delay [s]	58.28	58.26	0.00	48.33	58.33	58.41	62.52	8.10	8.10	60.76	8.29	5.53
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.51	0.45	0.00	0.07	6.54	6.96	4.59	0.29	0.79	17.65	0.66	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.09	0.09	0.00	0.06	0.66	0.68	0.44	0.33	0.33	0.81	0.53	0.11
d, Delay for Lane Group [s/veh]	58.78	58.71	0.00	48.40	64.88	65.37	67.11	8.39	8.89	78.41	8.94	5.74
Lane Group LOS	E	E	A	D	E	E	E	A	A	E	A	A
Critical Lane Group	No	No	No	Yes	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.25	0.25	0.00	0.29	2.54	2.63	0.50	3.57	4.08	2.48	6.70	0.86
50th-Percentile Queue Length [ft/ln]	6.17	6.15	0.00	7.18	63.49	65.69	12.47	89.37	101.91	61.98	167.49	21.59
95th-Percentile Queue Length [veh/ln]	0.44	0.44	0.00	0.52	4.57	4.73	0.90	6.43	7.34	4.46	10.94	1.55
95th-Percentile Queue Length [ft/ln]	11.10	11.06	0.00	12.92	114.29	118.24	22.44	160.87	183.44	111.57	273.62	38.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	58.74	29.35	48.40	65.04	65.37	65.37	67.11	8.52	8.89	78.41	8.94	5.74
Movement LOS	E	C	D	E	E	E	E	A	A	E	A	A
d_A, Approach Delay [s/veh]	52.83			65.13			9.73			11.19		
Approach LOS	D			E			A			B		
d_I, Intersection Delay [s/veh]	13.39											
Intersection LOS	B											
Intersection V/C	0.454											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.628	2.218	3.286	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	662	446	446
d_b, Bicycle Delay [s]	33.98	29.11	39.23	39.23
l_b,int, Bicycle LOS Score for Intersection	1.588	1.804	2.121	2.568
Bicycle LOS	A	A	B	B

Sequence

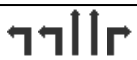
Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Escondido Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	27.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.578

Intersection Setup

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	661.02
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	3
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	160.47
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Base Volume Input [veh/h]	626	14	325	3	2	12	10	863	430	318	829	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	18	0	0	70	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	651	15	338	3	2	12	10	916	447	331	932	6
Peak Hour Factor	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	168	4	87	1	1	3	3	237	115	85	241	2
Total Analysis Volume [veh/h]	673	15	349	3	2	12	10	946	462	342	963	6
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	0	3	8	8	7	4	0
Auxiliary Signal Groups			6,7						1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	10	5	10	0
Maximum Green [s]	5	10	10	12	10	0	6	10	10	6	10	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	47	64	64	16	33	0	10	30	30	10	30	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	5	0	5	0
Pedestrian Clearance [s]	0	27	27	0	24	0	0	21	21	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No		No	No	No	No	No	
Maximum Recall	No	No	No	No	No		No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	32	35	61	0	4	1	47	82	22	67	67
g / C, Green / Cycle	0.27	0.29	0.51	0.00	0.03	0.01	0.39	0.69	0.18	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.23	0.01	0.23	0.00	0.01	0.01	0.20	0.31	0.12	0.29	0.00
s, saturation flow rate [veh/h]	2912	1772	1506	1593	1539	1593	4826	1506	2912	3373	1506
c, Capacity [veh/h]	772	518	764	7	49	19	1873	1034	529	1881	840
d1, Uniform Delay [s]	42.14	30.28	18.94	59.59	56.75	58.94	27.94	8.50	45.54	16.43	11.78
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.36	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.24	0.02	0.43	37.55	3.13	20.55	0.98	1.00	1.34	1.00	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.03	0.46	0.43	0.29	0.52	0.51	0.45	0.65	0.51	0.01
d, Delay for Lane Group [s/veh]	45.38	30.30	19.37	97.14	59.88	79.50	28.91	9.50	46.88	17.43	11.80
Lane Group LOS	D	C	B	F	E	E	C	A	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	9.81	0.32	6.24	0.16	0.46	0.41	7.04	5.33	4.82	8.24	0.07
50th-Percentile Queue Length [ft/ln]	245.14	7.91	155.93	4.08	11.45	10.28	175.90	133.15	120.58	206.03	1.87
95th-Percentile Queue Length [veh/ln]	14.94	0.57	10.33	0.29	0.82	0.74	11.39	9.11	8.43	12.95	0.13
95th-Percentile Queue Length [ft/ln]	373.53	14.24	258.32	7.35	20.61	18.51	284.65	227.77	210.63	323.73	3.37

Movement, Approach, & Intersection Results

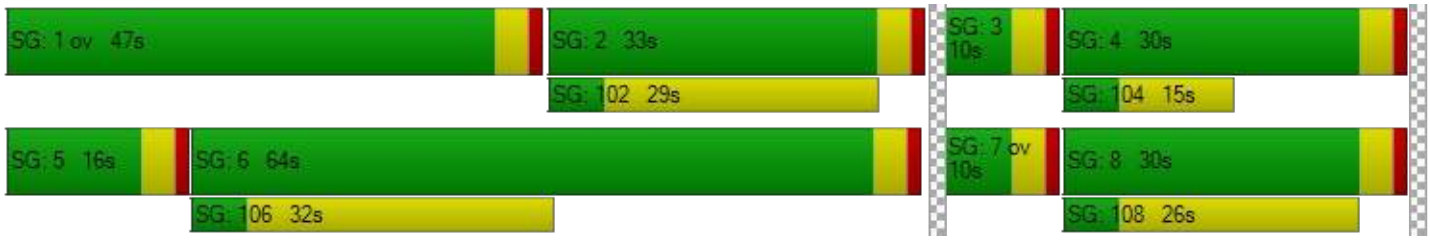
d_M, Delay for Movement [s/veh]	45.38	30.30	19.37	97.14	59.88	59.88	79.50	28.91	9.50	46.88	17.43	11.80
Movement LOS	D	C	B	F	E	E	E	C	A	D	B	B
d_A, Approach Delay [s/veh]	36.41			66.46			22.95			25.08		
Approach LOS	D			E			C			C		
d_I, Intersection Delay [s/veh]	27.57											
Intersection LOS	C											
Intersection V/C	0.578											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.768	1.971	3.114	3.236
Crosswalk LOS	C	A	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1000	483	433	433
d_b, Bicycle Delay [s]	15.00	34.50	36.82	36.82
l_b,int, Bicycle LOS Score for Intersection	3.271	1.588	2.340	2.641
Bicycle LOS	C	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Topaz Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	26.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.620

Intersection Setup

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	1279.32	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Base Volume Input [veh/h]	175	70	52	110	76	88	62	1073	95	28	925	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	18	0	0	70	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	182	73	54	114	79	92	64	1134	99	29	1032	107
Peak Hour Factor	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	22	16	34	23	27	19	337	29	9	306	32
Total Analysis Volume [veh/h]	216	87	64	135	94	109	76	1347	118	34	1226	127
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	5	10	0	6	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	33	0	38	47	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29	29	29	6	46	46	3	44	44
g / C, Green / Cycle	0.32	0.32	0.32	0.32	0.06	0.51	0.51	0.03	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.18	0.09	0.11	0.13	0.05	0.40	0.08	0.02	0.39	0.39
s, saturation flow rate [veh/h]	1179	1648	1236	1618	1593	3373	1506	1593	1772	1714
c, Capacity [veh/h]	316	530	363	520	99	1731	773	51	856	828
d1, Uniform Delay [s]	35.28	22.82	30.05	23.70	41.57	17.75	11.57	43.08	19.60	19.68
k, delay calibration	0.13	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.22	0.29	0.63	0.48	11.71	3.52	0.42	13.84	7.78	8.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.68	0.29	0.37	0.39	0.77	0.78	0.15	0.67	0.80	0.81
d, Delay for Lane Group [s/veh]	38.50	23.11	30.68	24.18	53.28	21.27	11.99	56.91	27.39	27.91
Lane Group LOS	D	C	C	C	D	C	B	E	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.81	2.38	2.55	3.34	1.96	11.27	1.28	0.94	13.06	12.85
50th-Percentile Queue Length [ft/ln]	120.18	59.55	63.68	83.38	49.12	281.64	31.99	23.43	326.55	321.16
95th-Percentile Queue Length [veh/ln]	8.40	4.29	4.58	6.00	3.54	16.77	2.30	1.69	18.99	18.72
95th-Percentile Queue Length [ft/ln]	210.07	107.19	114.62	150.09	88.42	419.26	57.59	42.17	474.72	468.11

Movement, Approach, & Intersection Results

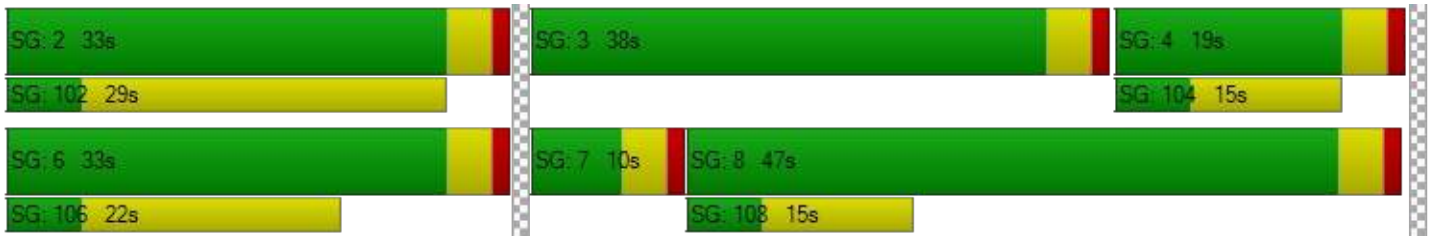
d_M, Delay for Movement [s/veh]	38.50	23.11	23.11	30.68	24.18	24.18	53.28	21.27	11.99	56.91	27.62	27.91
Movement LOS	D	C	C	C	C	C	D	C	B	E	C	C
d_A, Approach Delay [s/veh]	32.17			26.78			22.14			28.36		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	25.96											
Intersection LOS	C											
Intersection V/C	0.620											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.282	2.146	3.333	3.123
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	644	956	333
d_b, Bicycle Delay [s]	20.67	20.67	12.27	31.25
l_b,int, Bicycle LOS Score for Intersection	2.165	2.117	2.831	2.704
Bicycle LOS	B	B	C	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Hesperia Big Box Retail and Fuel Station

Vistro File: K:\...\Hesperia Big Box Retail and Fuel Station_PM.vistro

Scenario 2 OY CUM PM

Report File: K:\...\2. OY CUM PM.pdf

12/16/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Keypointe Dr at Amargosa Rd	Two-way stop	HCM 7th Edition	NB Left	0.036	24.0	C
2	US-395 at Phelan Rd/Main St	Signalized	HCM 7th Edition	NB Right	0.849	67.4	E
3	Mesa Linda St at Main St	Signalized	HCM 7th Edition	EB Left	0.355	12.9	B
4	Cataba Rd at Main St	Signalized	HCM 7th Edition	EB Left	0.485	28.2	C
5	Keypointe Dr at Main St	Signalized	HCM 7th Edition	EB Left	0.656	24.5	C
6	I-15 SB Ramps at Main St	Signalized	HCM 7th Edition	SB Right	0.525	13.4	B
7	I-15 NB Ramps at Main St	Signalized	HCM 7th Edition	NB Right	0.594	15.5	B
8	Mariposa Rd at Main St	Signalized	HCM 7th Edition	WB Left	0.670	29.4	C
9	Mountain Vista Ave at Main St	Signalized	HCM 7th Edition	WB Left	0.468	16.3	B
10	Escondido Ave at Main St	Signalized	HCM 7th Edition	EB Left	0.837	43.5	D
11	Topaz Ave at Main St	Signalized	HCM 7th Edition	EB Left	0.591	18.5	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Keypointe Dr at Amargosa Rd

Control Type:	Two-way stop	Delay (sec / veh):	24.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.036

Intersection Setup

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	1	0	1
Exit Pocket Length [ft]	0.00	100.00	0.00	49.21	0.00	477.13
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Base Volume Input [veh/h]	6	244	116	13	279	142
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	15	20	0	23	32
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	269	141	14	313	180
Peak Hour Factor	0.9220	0.9220	0.9220	0.9220	0.9220	0.9220
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	73	38	4	85	49
Total Analysis Volume [veh/h]	7	292	153	15	339	195
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.30	0.00	0.00	0.24	0.00
d_M, Delay for Movement [s/veh]	23.99	10.39	0.00	0.00	8.02	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.11	1.29	0.00	0.00	0.69	0.35
95th-Percentile Queue Length [ft/ln]	2.76	32.36	0.00	0.00	17.34	8.67
d_A, Approach Delay [s/veh]	10.71		0.00		5.09	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	5.92					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 2: US-395 at Phelan Rd/Main St

Control Type:	Signalized	Delay (sec / veh):	67.4
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.849

Intersection Setup

Name	US-395			US-395			Phelan Rd			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395			US-395			Phelan Rd			Main St		
Base Volume Input [veh/h]	99	885	54	237	536	35	36	500	44	6	557	453
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	73	0	0	0	0	12	0	46	15	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	103	920	129	246	557	36	37	532	46	52	594	471
Peak Hour Factor	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	243	34	65	147	9	10	140	12	14	157	124
Total Analysis Volume [veh/h]	109	970	136	259	588	38	39	561	49	55	627	497
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	16	29	0	16	28	0	15	25	0	6	15	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	28	29	0	18	19	0	10	33	0	10	33	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	25	25	14	31	31	3	31	31	4	32	32
g / C, Green / Cycle	0.09	0.28	0.28	0.16	0.35	0.35	0.03	0.35	0.35	0.04	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.07	0.32	0.32	0.16	0.18	0.18	0.02	0.17	0.17	0.03	0.34	0.34
s, saturation flow rate [veh/h]	1593	1772	1696	1593	1772	1734	1593	1772	1722	1593	1772	1516
c, Capacity [veh/h]	139	492	471	248	613	600	56	614	596	68	627	536
d1, Uniform Delay [s]	40.25	32.50	32.50	38.00	23.42	23.42	42.95	23.29	23.30	42.73	28.51	28.61
k, delay calibration	0.11	0.44	0.44	0.35	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.30	85.46	87.38	60.24	0.67	0.69	14.48	2.94	3.04	19.94	28.02	32.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	1.15	1.15	1.04	0.52	0.52	0.70	0.50	0.50	0.81	0.96	0.97
d, Delay for Lane Group [s/veh]	49.55	117.96	119.88	98.24	24.09	24.11	57.42	26.22	26.34	62.67	56.53	60.68
Lane Group LOS	D	F	F	F	C	C	E	C	C	E	E	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.69	22.02	21.34	9.50	5.29	5.18	1.07	5.53	5.41	1.58	17.03	15.28
50th-Percentile Queue Length [ft/ln]	67.36	550.49	533.40	237.45	132.23	129.52	26.86	138.31	135.33	39.38	425.79	382.02
95th-Percentile Queue Length [veh/ln]	4.85	32.19	31.35	14.85	9.06	8.91	1.93	9.39	9.23	2.84	23.80	21.69
95th-Percentile Queue Length [ft/ln]	121.24	804.82	783.86	371.26	226.53	222.84	48.34	234.75	230.73	70.88	594.99	542.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.55	118.76	119.88	98.24	24.10	24.11	57.42	26.28	26.34	62.67	56.68	60.68
Movement LOS	D	F	F	F	C	C	E	C	C	E	E	E
d_A, Approach Delay [s/veh]	112.68			45.80			28.15			58.65		
Approach LOS	F			D			C			E		
d_I, Intersection Delay [s/veh]	67.43											
Intersection LOS	E											
Intersection V/C	0.849											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	333	644	644
d_b, Bicycle Delay [s]	23.47	31.25	20.67	20.67
l_b,int, Bicycle LOS Score for Intersection	2.562	2.290	2.095	2.532
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Mesa Linda St at Main St

Control Type:	Signalized	Delay (sec / veh):	12.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.355

Intersection Setup

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	460.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Base Volume Input [veh/h]	15	2	80	23	1	1	6	880	14	43	998	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	46	0	0	0	0	85	0	29	61	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	2	129	24	1	1	6	1000	15	74	1099	46
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	33	6	0	0	2	258	4	19	283	12
Total Analysis Volume [veh/h]	16	2	133	25	1	1	6	1031	15	76	1133	47
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	29	0	0	20	0	11	10	0	9	29	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	14	0	15	14	0	29	28	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	5	5	1	54	54	5	58	58
g / C, Green / Cycle	0.11	0.11	0.05	0.05	0.01	0.60	0.60	0.06	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate	0.01	0.09	0.02	0.00	0.00	0.20	0.20	0.05	0.23	0.23
s, saturation flow rate [veh/h]	1696	1506	1690	1506	1593	3373	1759	1593	3373	1736
c, Capacity [veh/h]	187	166	93	82	13	2010	1048	97	2189	1126
d1, Uniform Delay [s]	36.00	39.07	40.83	40.23	44.43	9.23	9.23	41.65	7.21	7.21
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.22	8.56	1.63	0.06	23.19	0.46	0.89	12.59	0.45	0.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.10	0.80	0.28	0.01	0.46	0.34	0.34	0.78	0.36	0.36
d, Delay for Lane Group [s/veh]	36.22	47.63	42.47	40.29	67.62	9.69	10.12	54.24	7.67	8.09
Lane Group LOS	D	D	D	D	E	A	B	D	A	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.36	3.22	0.59	0.02	0.22	3.24	3.50	1.98	3.11	3.34
50th-Percentile Queue Length [ft/ln]	9.09	80.50	14.75	0.55	5.40	80.93	87.55	49.60	77.87	83.52
95th-Percentile Queue Length [veh/ln]	0.65	5.80	1.06	0.04	0.39	5.83	6.30	3.57	5.61	6.01
95th-Percentile Queue Length [ft/ln]	16.37	144.91	26.55	0.99	9.72	145.67	157.58	89.29	140.16	150.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.22	36.22	47.63	42.47	42.47	40.29	67.62	9.83	10.12	54.24	7.80	8.09
Movement LOS	D	D	D	D	D	D	E	A	B	D	A	A
d_A, Approach Delay [s/veh]	46.27			42.39			10.17			10.62		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	12.94											
Intersection LOS	B											
Intersection V/C	0.355											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersectio	0.000	1.968	0.000	2.936
Crosswalk LOS	F	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	222	222	533
d_b, Bicycle Delay [s]	20.67	35.56	35.56	24.20
l_b,int, Bicycle LOS Score for Intersection	1.809	1.604	2.138	2.250
Bicycle LOS	A	A	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Cataba Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	28.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.485

Intersection Setup

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	260.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Base Volume Input [veh/h]	151	47	184	40	39	114	83	714	140	173	786	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	30	0	9	6	128	0	0	85	22
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	157	49	191	72	41	128	92	871	146	180	902	51
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	13	51	19	11	34	24	231	39	48	240	14
Total Analysis Volume [veh/h]	167	52	203	77	44	136	98	926	155	191	959	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	23	0	0	23	0	0	10	0	6	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	38	0	0	36	0	10	26	0	10	26	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	17	17	12	12	12	8	55	55	10	56	56
g / C, Green / Cycle	0.16	0.16	0.16	0.11	0.11	0.11	0.08	0.50	0.50	0.09	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.07	0.07	0.13	0.05	0.02	0.09	0.06	0.19	0.10	0.07	0.20	0.20
s, saturation flow rate [veh/h]	1593	1725	1506	1593	1772	1506	1593	4826	1506	2912	3373	1724
c, Capacity [veh/h]	254	275	240	179	199	169	121	2394	747	253	1709	874
d1, Uniform Delay [s]	41.62	41.62	44.93	45.54	44.44	47.64	50.01	17.28	15.57	49.08	16.70	16.70
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.08	1.00	8.01	1.63	0.55	8.60	11.81	0.47	0.63	4.55	0.68	1.32
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.41	0.85	0.43	0.22	0.80	0.81	0.39	0.21	0.76	0.39	0.39
d, Delay for Lane Group [s/veh]	42.70	42.62	52.94	47.17	45.00	56.24	61.82	17.75	16.20	53.64	17.37	18.03
Lane Group LOS	D	D	D	D	D	E	E	B	B	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.65	2.86	5.89	2.04	1.12	4.03	3.04	4.88	2.29	2.72	5.25	5.53
50th-Percentile Queue Length [ft/ln]	66.13	71.39	147.15	51.08	28.12	100.74	76.10	121.96	57.25	67.91	131.31	138.25
95th-Percentile Queue Length [veh/ln]	4.76	5.14	9.86	3.68	2.02	7.25	5.48	8.50	4.12	4.89	9.01	9.39
95th-Percentile Queue Length [ft/ln]	119.04	128.51	246.61	91.94	50.62	181.34	136.98	212.52	103.05	122.24	225.27	234.67

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.67	42.62	52.94	47.17	45.00	56.24	61.82	17.75	16.20	53.64	17.57	18.03
Movement LOS	D	D	D	D	D	E	E	B	B	D	B	B
d_A, Approach Delay [s/veh]	47.61			51.60			21.21			23.31		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	28.23											
Intersection LOS	C											
Intersection V/C	0.485											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	46.37	46.37	46.37	46.37
l_p,int, Pedestrian LOS Score for Intersectio	2.469	2.401	3.034	3.030
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	618	582	400	400
d_b, Bicycle Delay [s]	26.25	27.65	35.20	35.20
l_b,int, Bicycle LOS Score for Intersection	2.256	1.984	2.208	2.222
Bicycle LOS	B	A	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Keypointe Dr at Main St

Control Type:	Signalized	Delay (sec / veh):	24.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.656

Intersection Setup

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	741.32	180.00	100.00	366.47	192.10	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Base Volume Input [veh/h]	30	48	217	218	80	19	38	933	20	269	1013	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	23	0	0	0	157	0	0	106	15
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	50	226	250	83	20	40	1127	21	280	1160	202
Peak Hour Factor	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	13	58	64	21	5	10	290	5	72	299	52
Total Analysis Volume [veh/h]	32	51	233	257	85	21	41	1161	22	288	1195	208
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	31	10	0	5	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	36	0	0	36	0	10	26	0	28	44	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	27	27	27	27	27	3	32	32	18	48	48
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.30	0.04	0.36	0.36	0.20	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.02	0.03	0.15	0.23	0.06	0.03	0.24	0.01	0.18	0.28	0.28
s, saturation flow rate [veh/h]	1288	1772	1506	1095	1712	1593	4826	1506	1593	3373	1641
c, Capacity [veh/h]	377	535	455	360	517	57	1743	544	325	1785	868
d1, Uniform Delay [s]	27.33	22.58	25.95	32.54	23.38	42.95	24.19	18.64	34.83	13.85	13.86
k, delay calibration	0.11	0.11	0.11	0.20	0.11	0.11	0.50	0.50	0.13	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.10	0.08	0.90	4.86	0.19	15.61	2.03	0.14	9.37	1.13	2.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.08	0.10	0.51	0.71	0.21	0.72	0.67	0.04	0.89	0.53	0.53
d, Delay for Lane Group [s/veh]	27.42	22.66	26.84	37.41	23.58	58.56	26.22	18.78	44.20	14.98	16.17
Lane Group LOS	C	C	C	D	C	E	C	B	D	B	B
Critical Lane Group	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.55	0.78	4.13	5.76	1.67	1.14	7.00	0.31	6.83	6.10	6.24
50th-Percentile Queue Length [ft/ln]	13.66	19.40	103.17	144.02	41.83	28.50	175.03	7.84	170.74	152.60	155.95
95th-Percentile Queue Length [veh/ln]	0.98	1.40	7.43	9.70	3.01	2.05	11.34	0.56	11.12	10.16	10.33
95th-Percentile Queue Length [ft/ln]	24.59	34.92	185.71	242.43	75.29	51.31	283.52	14.10	277.89	253.90	258.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.42	22.66	26.84	37.41	23.58	23.58	58.56	26.22	18.78	44.20	15.23	16.17
Movement LOS	C	C	C	D	C	C	E	C	B	D	B	B
d_A, Approach Delay [s/veh]	26.23			33.37			27.17			20.28		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	24.47											
Intersection LOS	C											
Intersection V/C	0.656											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.440	2.157	3.074	3.426
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	711	489	889
d_b, Bicycle Delay [s]	18.69	18.69	25.69	13.89
l_b,int, Bicycle LOS Score for Intersection	2.081	2.159	2.233	2.490
Bicycle LOS	B	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: I-15 SB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	13.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.525

Intersection Setup

Name							Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	639.00	100.00	100.00	200.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name							Main St			Main St		
Base Volume Input [veh/h]	0	0	0	470	0	291	0	1180	138	0	1131	342
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0400	1.0000	1.0400	1.0000	1.0400	1.0400	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	13	0	40	0	121	59	0	80	13
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	502	0	343	0	1348	203	0	1256	369
Peak Hour Factor	1.0000	1.0000	1.0000	0.9650	1.0000	0.9650	1.0000	0.9650	0.9650	1.0000	0.9650	0.9650
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	130	0	89	0	349	53	0	325	96
Total Analysis Volume [veh/h]	0	0	0	520	0	355	0	1397	210	0	1302	382
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	7	0	4	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	5	0	5	0	10	0	0	10	0
Maximum Green [s]	0	0	0	32	0	32	0	20	0	0	20	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	46	0	94	0	44	0	0	44	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	10	0	0	0	3	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		90	90	90	90
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		25	25	57	57
g / C, Green / Cycle		0.28	0.28	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate		0.18	0.24	0.29	0.27
s, saturation flow rate [veh/h]		2912	1506	4826	4826
c, Capacity [veh/h]		804	415	3065	3065
d1, Uniform Delay [s]		28.72	30.87	8.43	8.20
k, delay calibration		0.11	0.11	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.88	5.10	0.49	0.43
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.65	0.85	0.46	0.42
d, Delay for Lane Group [s/veh]		29.60	35.97	8.92	8.63
Lane Group LOS		C	D	A	A
Critical Lane Group		No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		4.92	7.66	4.22	3.82
50th-Percentile Queue Length [ft/ln]		123.00	191.61	105.40	95.50
95th-Percentile Queue Length [veh/ln]		8.56	12.20	7.58	6.88
95th-Percentile Queue Length [ft/ln]		213.95	305.12	189.58	171.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	29.60	0.00	35.97	0.00	8.92	0.00	0.00	8.63	0.00
Movement LOS				C		D		A			A	
d_A, Approach Delay [s/veh]	0.00			32.18			7.79			6.73		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	13.37											
Intersection LOS	B											
Intersection V/C	0.525											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	933	889	889
d_b, Bicycle Delay [s]	45.00	12.80	13.89	13.89
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.328	2.276
Bicycle LOS	D	A	B	B

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: I-15 NB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	15.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.594

Intersection Setup

Name	I-15 NB Ramps						Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	639.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	307.42
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	I-15 NB Ramps						Main St			Main St		
Base Volume Input [veh/h]	183	4	731	0	0	0	0	1372	251	0	1276	391
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0000	1.0000	1.0000	1.0000	1.0400	1.0400	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	40	0	13	0	0	0	0	75	59	0	55	13
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	230	4	773	0	0	0	0	1502	320	0	1382	420
Peak Hour Factor	0.9580	0.9580	0.9580	1.0000	1.0000	1.0000	1.0000	0.9580	0.9580	1.0000	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	1	202	0	0	0	0	392	84	0	361	110
Total Analysis Volume [veh/h]	240	4	807	0	0	0	0	1568	334	0	1443	438
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	26	0	0	26	0	0	19	0	0	19	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	67	0	0	94	0	0	23	0	0	23	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No						No			No	
Maximum Recall		No						No			No	
Pedestrian Recall		No						No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R		C	C	R
C, Cycle Length [s]	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	28	28	28		54	54	54
g / C, Green / Cycle	0.31	0.31	0.31		0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.15	0.27	0.27		0.32	0.30	0.29
s, saturation flow rate [veh/h]	1593	1508	1506		4826	4826	1506
c, Capacity [veh/h]	498	472	471		2888	2888	901
d1, Uniform Delay [s]	25.02	29.07	29.09		10.75	10.36	10.24
k, delay calibration	0.11	0.11	0.11		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	0.72	4.71	4.76		0.74	0.62	1.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.86	0.86		0.54	0.50	0.49
d, Delay for Lane Group [s/veh]	25.75	33.78	33.84		11.49	10.98	12.11
Lane Group LOS	C	C	C		B	B	B
Critical Lane Group	No	No	Yes		Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.15	8.56	8.57		5.72	5.06	4.88
50th-Percentile Queue Length [ft/ln]	103.64	213.95	214.20		143.05	126.56	121.91
95th-Percentile Queue Length [veh/ln]	7.46	13.36	13.37		9.64	8.75	8.50
95th-Percentile Queue Length [ft/ln]	186.56	333.89	334.21		241.12	218.81	212.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.75	33.78	33.81	0.00	0.00	0.00	0.00	11.49	0.00	0.00	10.98	12.11
Movement LOS	C	C	C					B			B	B
d_A, Approach Delay [s/veh]	31.97			0.00			9.54			11.24		
Approach LOS	C			A			A			B		
d_I, Intersection Delay [s/veh]	15.49											
Intersection LOS	B											
Intersection V/C	0.594											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.389	1.856	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1400	0	422	422
d_b, Bicycle Delay [s]	4.05	45.00	28.01	28.01
l_b,int, Bicycle LOS Score for Intersection	3.294	4.132	2.422	2.594
Bicycle LOS	C	D	B	B

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Mariposa Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	29.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.670

Intersection Setup

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	307.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Base Volume Input [veh/h]	100	95	62	142	96	202	283	1637	187	80	1309	107
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	3	0	30	30	58	0	0	38	3
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	104	99	64	151	100	240	324	1760	194	83	1399	114
Peak Hour Factor	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	25	16	39	26	62	83	453	50	21	360	29
Total Analysis Volume [veh/h]	107	102	66	155	103	247	333	1811	200	85	1439	117
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	36	0	5	36	0	5	16	0	9	16	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	94	40	0	94	40	0	31	40	0	10	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	0	0	31	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	30	30	30	30	21	42	42	6	27	27
g / C, Green / Cycle	0.34	0.34	0.34	0.34	0.23	0.46	0.46	0.07	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.10	0.10	0.13	0.22	0.21	0.31	0.31	0.05	0.24	0.24
s, saturation flow rate [veh/h]	1031	1657	1217	1575	1593	4826	1658	1593	4826	1685
c, Capacity [veh/h]	213	559	376	531	370	2235	768	106	1434	501
d1, Uniform Delay [s]	38.07	22.00	29.55	25.41	33.53	18.80	18.82	41.44	29.20	29.21
k, delay calibration	0.11	0.11	0.11	0.13	0.14	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.82	0.30	0.72	1.66	10.28	1.61	4.64	13.11	4.87	12.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.30	0.41	0.66	0.90	0.67	0.67	0.80	0.80	0.80
d, Delay for Lane Group [s/veh]	39.89	22.30	30.27	27.08	43.81	20.41	23.46	54.55	34.08	42.13
Lane Group LOS	D	C	C	C	D	C	C	D	C	D
Critical Lane Group	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.37	2.61	2.93	6.41	7.92	7.93	8.85	2.22	8.05	9.57
50th-Percentile Queue Length [ft/ln]	59.13	65.24	73.23	160.36	198.04	198.28	221.27	55.55	201.28	239.16
95th-Percentile Queue Length [veh/ln]	4.26	4.70	5.27	10.57	12.54	12.55	13.73	4.00	12.70	14.64
95th-Percentile Queue Length [ft/ln]	106.44	117.43	131.81	264.20	313.44	313.75	343.25	99.99	317.61	365.97

Movement, Approach, & Intersection Results

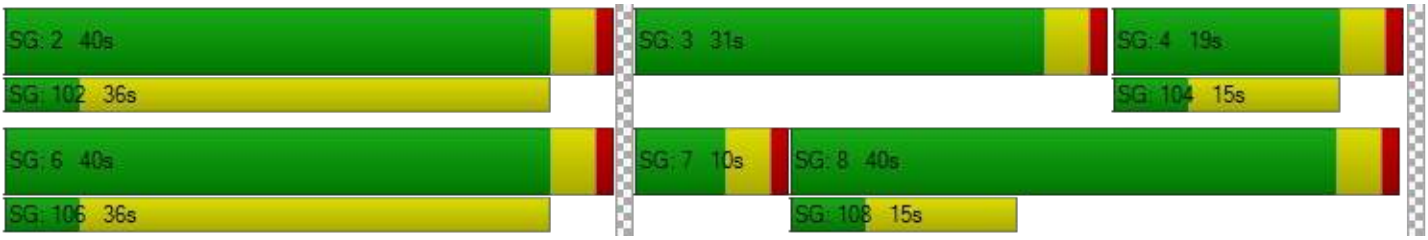
d_M, Delay for Movement [s/veh]	39.89	22.30	22.30	30.27	27.08	27.08	43.81	20.94	23.46	54.55	35.68	42.13
Movement LOS	D	C	C	C	C	C	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	29.14			28.06			24.41			37.12		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	29.44											
Intersection LOS	C											
Intersection V/C	0.670											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.157	2.285	3.451	3.469
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	800	800	333
d_b, Bicycle Delay [s]	16.20	16.20	16.20	31.25
l_b,int, Bicycle LOS Score for Intersection	2.013	2.393	2.527	2.237
Bicycle LOS	B	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Mountain Vista Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	16.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.468

Intersection Setup

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	330.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Base Volume Input [veh/h]	63	4	43	68	7	18	35	1808	29	88	1511	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	61	0	0	41	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	66	4	45	71	7	19	36	1941	30	92	1612	50
Peak Hour Factor	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	1	12	18	2	5	9	500	8	24	415	13
Total Analysis Volume [veh/h]	68	4	46	73	7	20	37	1999	31	95	1660	51
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	10	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	10	0	10	0	6	10	0	5	10	0
Amber [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	40	40	0	47	0	10	33	0	10	33	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	31	0	38	0	0	24	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No	No		No		No	No		No	No	
Maximum Recall		No	No		No		No	No		No	No	
Pedestrian Recall		No	No		No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	L	C	C	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	24	10	10	4	84	84	10	91	91
g / C, Green / Cycle	0.08	0.08	0.08	0.19	0.08	0.08	0.03	0.65	0.65	0.08	0.70	0.70
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.00	0.02	0.03	0.03	0.01	0.34	0.34	0.07	0.38	0.04
s, saturation flow rate [veh/h]	1434	1518	1594	2399	1434	1459	2621	4343	1578	1434	4343	1355
c, Capacity [veh/h]	109	116	122	449	108	110	74	2801	1018	115	3027	945
d1, Uniform Delay [s]	56.81	56.74	55.61	43.77	57.54	57.59	62.24	12.46	12.47	58.87	9.66	6.20
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.60	1.39	0.11	0.10	2.95	3.03	5.06	0.73	1.99	13.53	0.72	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.29	0.03	0.10	0.45	0.46	0.50	0.53	0.53	0.82	0.55	0.05
d, Delay for Lane Group [s/veh]	58.41	58.13	55.72	43.86	60.48	60.62	67.30	13.19	14.45	72.40	10.38	6.31
Lane Group LOS	E	E	E	D	E	E	E	B	B	E	B	A
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.11	1.10	0.13	0.63	1.64	1.71	0.66	7.68	8.73	3.52	7.40	0.45
50th-Percentile Queue Length [ft/ln]	27.75	27.62	3.15	15.67	40.88	42.66	16.41	192.02	218.28	87.95	185.12	11.37
95th-Percentile Queue Length [veh/ln]	2.00	1.99	0.23	1.13	2.94	3.07	1.18	12.23	13.58	6.33	11.87	0.82
95th-Percentile Queue Length [ft/ln]	49.95	49.72	5.67	28.21	73.58	76.80	29.54	305.65	339.43	158.32	296.69	20.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	58.27	55.72	43.86	60.53	60.62	60.62	67.30	13.51	14.45	72.40	10.38	6.31
Movement LOS	E	E	D	E	E	E	E	B	B	E	B	A
d_A, Approach Delay [s/veh]	52.57			60.55			14.49			13.53		
Approach LOS	D			E			B			B		
d_I, Intersection Delay [s/veh]	16.29											
Intersection LOS	B											
Intersection V/C	0.468											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.648	2.197	3.357	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	662	446	446
d_b, Bicycle Delay [s]	33.98	29.11	39.23	39.23
l_b,int, Bicycle LOS Score for Intersection	1.657	1.725	2.412	2.553
Bicycle LOS	A	A	B	B

Sequence

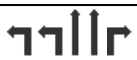
Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Escondido Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	43.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.837

Intersection Setup

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	661.02
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	382.98
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Base Volume Input [veh/h]	473	221	302	49	37	224	45	1215	597	408	984	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	61	0	0	41	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	492	230	314	51	38	233	47	1325	621	424	1064	7
Peak Hour Factor	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	127	59	81	13	10	60	12	341	160	109	274	2
Total Analysis Volume [veh/h]	507	237	323	53	39	240	48	1365	640	437	1096	7
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	0	3	8	8	7	4	0
Auxiliary Signal Groups			6,7						1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	10	5	10	0
Maximum Green [s]	5	10	10	6	10	0	9	10	10	6	10	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	27	61	61	10	44	0	13	30	30	19	36	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	5	0	5	0
Pedestrian Clearance [s]	0	27	27	0	24	0	0	21	21	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No		No	No	No	No	No	
Maximum Recall	No	No	No	No	No		No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	42	67	5	24	5	36	63	21	53	53
g / C, Green / Cycle	0.19	0.35	0.56	0.04	0.20	0.04	0.30	0.52	0.18	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.17	0.13	0.21	0.03	0.18	0.03	0.28	0.43	0.15	0.32	0.00
s, saturation flow rate [veh/h]	2912	1772	1506	1593	1538	1593	4826	1506	2912	3373	1506
c, Capacity [veh/h]	558	620	844	66	307	60	1439	788	516	1475	659
d1, Uniform Delay [s]	47.47	29.25	14.75	57.05	46.93	57.27	41.21	23.73	47.81	28.13	19.08
k, delay calibration	0.11	0.11	0.11	0.11	0.12	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.02	0.39	0.29	20.08	11.14	20.64	14.29	8.95	3.96	3.42	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.38	0.38	0.81	0.91	0.80	0.95	0.81	0.85	0.74	0.01
d, Delay for Lane Group [s/veh]	53.49	29.63	15.03	77.13	58.08	77.91	55.51	32.68	51.76	31.55	19.11
Lane Group LOS	D	C	B	E	E	E	E	C	D	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	7.85	5.20	4.90	1.96	9.06	1.79	14.92	16.45	6.59	13.58	0.12
50th-Percentile Queue Length [ft/ln]	196.29	130.11	122.47	49.01	226.52	44.75	373.10	411.29	164.75	339.42	2.92
95th-Percentile Queue Length [veh/ln]	12.45	8.95	8.53	3.53	14.00	3.22	21.26	23.10	10.80	19.62	0.21
95th-Percentile Queue Length [ft/ln]	311.17	223.64	213.21	88.22	349.93	80.56	531.49	577.59	270.01	490.49	5.26

Movement, Approach, & Intersection Results

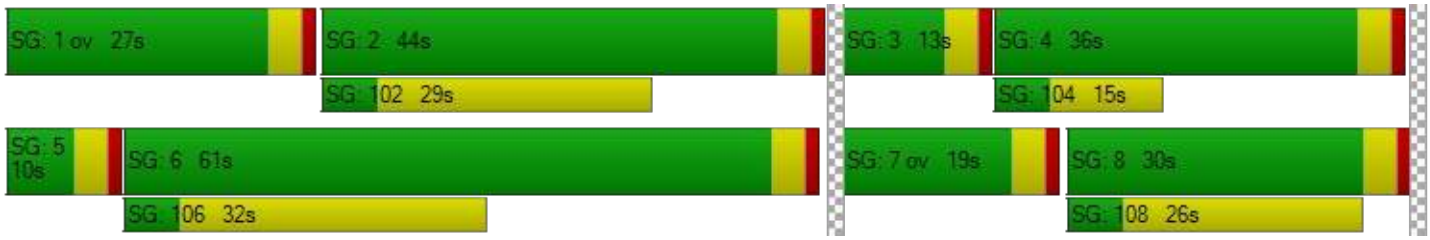
d_M, Delay for Movement [s/veh]	53.49	29.63	15.03	77.13	58.08	58.08	77.91	55.51	32.68	51.76	31.55	19.11
Movement LOS	D	C	B	E	E	E	E	E	C	D	C	B
d_A, Approach Delay [s/veh]	36.55			61.12			48.91			37.23		
Approach LOS	D			E			D			D		
d_I, Intersection Delay [s/veh]	43.48											
Intersection LOS	D											
Intersection V/C	0.837											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.823	2.158	3.216	3.141
Crosswalk LOS	C	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	950	667	433	533
d_b, Bicycle Delay [s]	16.54	26.67	36.82	32.27
l_b,int, Bicycle LOS Score for Intersection	3.320	2.107	2.689	2.830
Bicycle LOS	C	B	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Topaz Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	18.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.591

Intersection Setup

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	1279.32	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Base Volume Input [veh/h]	162	33	59	53	34	46	51	1257	202	55	1191	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	61	0	0	41	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	168	34	61	55	35	48	53	1368	210	57	1280	59
Peak Hour Factor	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	9	16	14	9	12	14	355	55	15	332	15
Total Analysis Volume [veh/h]	174	35	63	57	36	50	55	1421	218	59	1329	61
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	6	10	0	5	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	33	0	38	19	0	38	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	20	20	20	4	53	53	4	54	54
g / C, Green / Cycle	0.23	0.23	0.23	0.23	0.04	0.59	0.59	0.05	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.13	0.06	0.04	0.05	0.03	0.42	0.14	0.04	0.39	0.40
s, saturation flow rate [veh/h]	1311	1591	1297	1607	1593	3373	1506	1593	1772	1744
c, Capacity [veh/h]	286	362	275	365	69	1999	892	75	1056	1039
d1, Uniform Delay [s]	36.85	28.63	33.99	28.39	42.64	12.91	8.74	42.45	12.14	12.17
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.08	0.40	0.37	0.33	17.92	2.18	0.65	16.60	3.27	3.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.61	0.27	0.21	0.24	0.79	0.71	0.24	0.79	0.66	0.66
d, Delay for Lane Group [s/veh]	38.93	29.03	34.36	28.72	60.55	15.09	9.39	59.05	15.42	15.53
Lane Group LOS	D	C	C	C	E	B	A	E	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.82	1.76	1.12	1.53	1.54	9.54	2.02	1.63	9.27	9.20
50th-Percentile Queue Length [ft/ln]	95.42	43.95	28.10	38.20	38.59	238.59	50.43	40.71	231.78	230.09
95th-Percentile Queue Length [veh/ln]	6.87	3.16	2.02	2.75	2.78	14.61	3.63	2.93	14.26	14.18
95th-Percentile Queue Length [ft/ln]	171.75	79.11	50.57	68.76	69.47	365.25	90.77	73.27	356.62	354.47

Movement, Approach, & Intersection Results

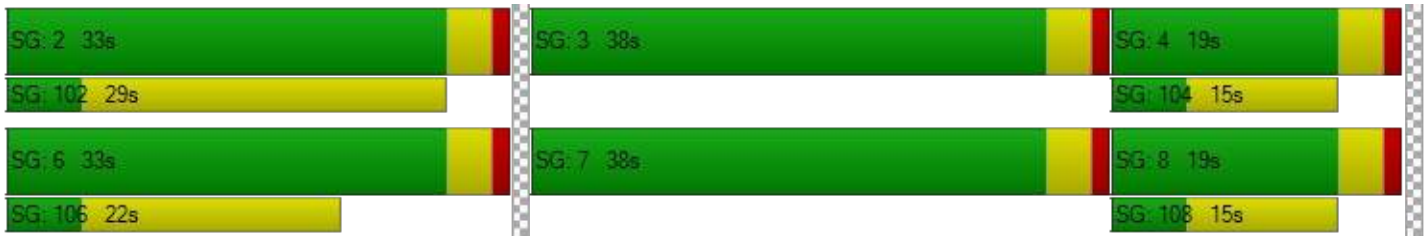
d_M, Delay for Movement [s/veh]	38.93	29.03	29.03	34.36	28.72	28.72	60.55	15.09	9.39	59.05	15.47	15.53
Movement LOS	D	C	C	C	C	C	E	B	A	E	B	B
d_A, Approach Delay [s/veh]	35.36			30.97			15.83			17.25		
Approach LOS	D			C			B			B		
d_I, Intersection Delay [s/veh]	18.51											
Intersection LOS	B											
Intersection V/C	0.591											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.132	2.037	3.295	2.965
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	644	333	333
d_b, Bicycle Delay [s]	20.67	20.67	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.008	1.796	2.957	2.755
Bicycle LOS	B	A	C	C

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX D-3

INTERSECTION ANALYSIS WORKSHEETS – OPENING YEAR 2026 CUMULATIVE PLUS PROJECT

Hesperia Big Box Retail and Fuel Station

Vistro File: K:\...\Hesperia Big Box Retail and Fuel Station_AM.vistro

Scenario 3 OY CUM WP AM

Report File: K:\...\3. OY CUM WP AM.pdf

3/12/2025

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Keypointe Dr at Amargosa Rd	Two-way stop	HCM 7th Edition	NB Left	0.039	29.6	D
2	US-395 at Phelan Rd/Main St	Signalized	HCM 7th Edition	NB Left	0.655	32.6	C
3	Mesa Linda St at Main St	Signalized	HCM 7th Edition	EB Left	0.326	12.8	B
4	Cataba Rd at Main St	Signalized	HCM 7th Edition	EB Left	0.347	20.8	C
5	Keypointe Dr at Main St	Signalized	HCM 7th Edition	EB Left	0.509	20.6	C
6	I-15 SB Ramps at Main St	Signalized	HCM 7th Edition	SB Right	0.448	10.8	B
7	I-15 NB Ramps at Main St	Signalized	HCM 7th Edition	NB Right	0.490	10.3	B
8	Mariposa Rd at Main St	Signalized	HCM 7th Edition	WB Left	0.521	20.7	C
9	Mountain Vista Ave at Main St	Signalized	HCM 7th Edition	WB Left	0.467	13.4	B
10	Escondido Ave at Main St	Signalized	HCM 7th Edition	SB Left	0.589	27.9	C
11	Topaz Ave at Main St	Signalized	HCM 7th Edition	WB Left	0.644	27.2	C
101	Keypointe Dr at South Fuel Entrance Dwy	Two-way stop	HCM 7th Edition	SB Left	0.008	8.3	A
102	Amargosa Rd at West Retail Dwy/West Fuel Dwy	Signalized	HCM 7th Edition	NB Left	0.268	12.9	B
103	Amargosa Rd at East Retail Dwy/East Fuel Exit Dwy	Two-way stop	HCM 7th Edition	NB Right	0.006	9.2	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Keypointe Dr at Amargosa Rd

Control Type:	Two-way stop	Delay (sec / veh):	29.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.039

Intersection Setup

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	1	0	1
Exit Pocket Length [ft]	0.00	100.00	0.00	49.21	0.00	477.13
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Base Volume Input [veh/h]	5	142	77	5	108	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	29	40	0	7	9
Site-Generated Trips [veh/h]	0	97	0	0	140	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	18	0	0	91	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	292	120	5	350	60
Peak Hour Factor	0.8080	0.8080	0.8080	0.8080	0.8080	0.8080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	90	37	2	108	19
Total Analysis Volume [veh/h]	6	361	149	6	433	74
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.37	0.00	0.00	0.30	0.00
d_M, Delay for Movement [s/veh]	29.62	10.92	0.00	0.00	8.33	0.00
Movement LOS	D	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	1.75	0.00	0.00	1.08	0.54
95th-Percentile Queue Length [ft/ln]	3.06	43.63	0.00	0.00	26.90	13.45
d_A, Approach Delay [s/veh]	11.22		0.00		7.11	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	7.51					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 2: US-395 at Phelan Rd/Main St

Control Type:	Signalized	Delay (sec / veh):	32.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.655

Intersection Setup

Name	US-395			US-395			Phelan Rd			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395			US-395			Phelan Rd			Main St		
Base Volume Input [veh/h]	48	516	8	230	702	21	28	702	100	10	296	183
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	22	0	0	0	0	13	0	90	4	0
Site-Generated Trips [veh/h]	0	0	0	18	0	0	0	18	0	0	14	14
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	537	30	257	730	22	29	761	104	100	326	204
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	138	8	66	188	6	7	196	27	26	84	53
Total Analysis Volume [veh/h]	52	554	31	265	753	23	30	785	107	103	336	210
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	16	28	0	16	28	0	15	14	0	16	15	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	33	17	0	39	23	0	16	24	0	10	18	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	18	18	17	31	31	3	32	32	7	37	37
g / C, Green / Cycle	0.04	0.20	0.20	0.19	0.35	0.35	0.03	0.36	0.36	0.08	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.03	0.17	0.17	0.17	0.22	0.22	0.02	0.26	0.26	0.06	0.16	0.17
s, saturation flow rate [veh/h]	1593	1772	1739	1593	1772	1753	1593	1772	1698	1593	1772	1548
c, Capacity [veh/h]	66	348	342	303	611	605	47	629	603	128	719	629
d1, Uniform Delay [s]	42.74	34.86	34.88	35.41	24.76	24.76	43.18	25.18	25.18	40.67	18.98	19.03
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	18.17	5.73	5.90	7.90	1.12	1.13	13.15	7.09	7.38	10.97	1.67	1.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.85	0.85	0.88	0.64	0.64	0.63	0.72	0.72	0.80	0.40	0.41
d, Delay for Lane Group [s/veh]	60.91	40.59	40.78	43.31	25.88	25.89	56.32	32.27	32.56	51.64	20.65	20.99
Lane Group LOS	E	D	D	D	C	C	E	C	C	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.47	6.64	6.55	6.18	6.93	6.86	0.83	9.35	9.02	2.60	4.47	4.02
50th-Percentile Queue Length [ft/ln]	36.69	166.00	163.74	154.61	173.24	171.50	20.66	233.83	225.39	65.11	111.83	100.50
95th-Percentile Queue Length [veh/ln]	2.64	10.87	10.75	10.26	11.25	11.16	1.49	14.37	13.94	4.69	7.94	7.24
95th-Percentile Queue Length [ft/ln]	66.04	271.65	268.67	256.57	281.17	278.89	37.20	359.22	348.50	117.21	198.54	180.90

Movement, Approach, & Intersection Results

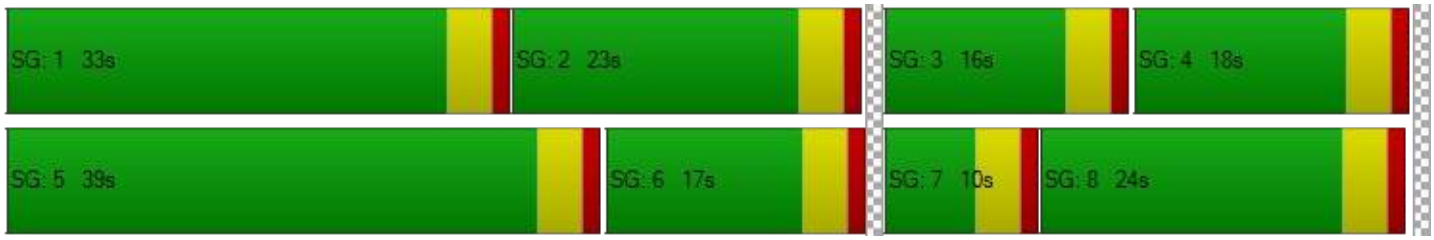
d_M, Delay for Movement [s/veh]	60.91	40.68	40.78	43.31	25.88	25.89	56.32	32.39	32.56	51.64	20.70	20.99
Movement LOS	E	D	D	D	C	C	E	C	C	D	C	C
d_A, Approach Delay [s/veh]	42.34			30.32			33.19			25.70		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	32.57											
Intersection LOS	C											
Intersection V/C	0.655											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	289	422	444	311
d_b, Bicycle Delay [s]	32.94	28.01	27.22	32.09
l_b,int, Bicycle LOS Score for Intersection	2.085	2.418	2.320	2.095
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Mesa Linda St at Main St

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.326

Intersection Setup

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	460.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Base Volume Input [veh/h]	2	1	26	36	0	11	5	915	9	57	587	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	14	0	0	0	0	35	0	57	94	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	36	0	0	28	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1	41	37	0	11	5	1023	9	116	732	18
Peak Hour Factor	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	10	9	0	3	1	259	2	29	185	5
Total Analysis Volume [veh/h]	2	1	41	37	0	11	5	1034	9	117	740	18
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	29	0	0	20	0	10	16	0	9	15	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	14	0	24	14	0	29	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	7	7	7	1	52	52	8	60	60
g / C, Green / Cycle	0.07	0.07	0.08	0.08	0.01	0.58	0.58	0.09	0.66	0.66
(v / s)_i Volume / Saturation Flow Rate	0.00	0.03	0.02	0.01	0.00	0.20	0.20	0.07	0.15	0.15
s, saturation flow rate [veh/h]	1714	1506	1687	1506	1593	3373	1764	1593	3373	1750
c, Capacity [veh/h]	129	113	131	117	12	1946	1018	147	2233	1159
d1, Uniform Delay [s]	38.56	39.57	39.13	38.55	44.48	10.10	10.10	40.01	6.03	6.04
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.07	1.94	1.16	0.34	22.58	0.50	0.96	9.32	0.23	0.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.02	0.36	0.28	0.09	0.43	0.35	0.35	0.80	0.22	0.22
d, Delay for Lane Group [s/veh]	38.63	41.52	40.29	38.90	67.05	10.60	11.06	49.34	6.27	6.48
Lane Group LOS	D	D	D	D	E	B	B	D	A	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.06	0.91	0.81	0.23	0.18	3.43	3.72	2.88	1.69	1.83
50th-Percentile Queue Length [ft/ln]	1.59	22.86	20.14	5.87	4.59	85.78	92.97	72.07	42.34	45.77
95th-Percentile Queue Length [veh/ln]	0.11	1.65	1.45	0.42	0.33	6.18	6.69	5.19	3.05	3.30
95th-Percentile Queue Length [ft/ln]	2.85	41.15	36.24	10.56	8.27	154.40	167.35	129.73	76.21	82.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.63	38.63	41.52	40.29	40.29	38.90	67.05	10.76	11.06	49.34	6.34	6.48
Movement LOS	D	D	D	D	D	D	E	B	B	D	A	A
d_A, Approach Delay [s/veh]	41.32			39.97			11.03			12.09		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	12.84											
Intersection LOS	B											
Intersection V/C	0.326											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersectio	0.000	1.965	0.000	2.872
Crosswalk LOS	F	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	222	222	333
d_b, Bicycle Delay [s]	20.67	35.56	35.56	31.25
l_b,int, Bicycle LOS Score for Intersection	1.632	1.639	2.136	2.041
Bicycle LOS	A	A	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Cataba Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	20.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.347

Intersection Setup

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	260.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Base Volume Input [veh/h]	50	13	109	34	9	46	63	740	87	138	546	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	7	0	3	12	36	0	0	148	29
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	36	0	0	28	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	14	113	42	9	51	78	842	90	144	744	48
Peak Hour Factor	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	4	30	11	2	13	20	220	24	38	194	13
Total Analysis Volume [veh/h]	54	15	118	44	9	53	82	880	94	150	777	50
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	23	0	0	23	0	0	10	0	6	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	36	0	0	36	0	12	26	0	12	26	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	11	11	10	10	10	7	66	66	8	66	66
g / C, Green / Cycle	0.10	0.10	0.10	0.09	0.09	0.09	0.06	0.60	0.60	0.07	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.08	0.03	0.01	0.04	0.05	0.18	0.06	0.05	0.16	0.16
s, saturation flow rate [veh/h]	1593	1722	1506	1593	1772	1506	1593	4826	1506	2912	3373	1717
c, Capacity [veh/h]	158	171	149	140	156	133	103	2874	897	209	2032	1035
d1, Uniform Delay [s]	45.59	45.58	48.43	47.03	45.97	47.40	50.72	11.01	9.60	49.96	10.37	10.38
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.66	0.60	8.97	1.26	0.15	1.93	12.80	0.28	0.23	4.56	0.33	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.21	0.79	0.31	0.06	0.40	0.79	0.31	0.10	0.72	0.27	0.27
d, Delay for Lane Group [s/veh]	46.24	46.18	57.40	48.29	46.12	49.33	63.52	11.28	9.83	54.52	10.70	11.02
Lane Group LOS	D	D	E	D	D	D	E	B	A	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.87	0.93	3.53	1.18	0.23	1.44	2.59	3.47	1.01	2.15	3.11	3.27
50th-Percentile Queue Length [ft/ln]	21.67	23.18	88.20	29.50	5.82	36.10	64.70	86.66	25.17	53.68	77.79	81.80
95th-Percentile Queue Length [veh/ln]	1.56	1.67	6.35	2.12	0.42	2.60	4.66	6.24	1.81	3.86	5.60	5.89
95th-Percentile Queue Length [ft/ln]	39.01	41.73	158.76	53.09	10.47	64.99	116.46	155.99	45.30	96.62	140.03	147.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.24	46.18	57.40	48.29	46.12	49.33	63.52	11.28	9.83	54.52	10.80	11.02
Movement LOS	D	D	E	D	D	D	E	B	A	D	B	B
d_A, Approach Delay [s/veh]	53.27			48.63			15.21			17.52		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	20.76											
Intersection LOS	C											
Intersection V/C	0.347											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	46.37	46.37	46.37	46.37
l_p,int, Pedestrian LOS Score for Intersectio	2.397	2.360	2.973	2.983
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	582	582	400	400
d_b, Bicycle Delay [s]	27.65	27.65	35.20	35.20
l_b,int, Bicycle LOS Score for Intersection	1.868	1.735	2.140	2.097
Bicycle LOS	A	A	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Keypointe Dr at Main St

Control Type:	Signalized	Delay (sec / veh):	20.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.509

Intersection Setup

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	741.32	180.00	100.00	366.47	192.10	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Base Volume Input [veh/h]	7	10	56	113	24	10	20	944	9	128	634	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	7	0	0	0	43	0	0	177	29
Site-Generated Trips [veh/h]	0	0	0	103	0	28	36	0	0	0	0	125
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	46	0	45	46	-46	0	0	-45	45
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	10	58	274	25	83	103	979	9	133	791	324
Peak Hour Factor	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	3	15	70	6	21	26	250	2	34	202	83
Total Analysis Volume [veh/h]	7	10	59	280	26	85	105	1000	9	136	808	331
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	36	0	0	36	0	35	26	0	28	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	24	24	24	24	7	45	45	9	47	47
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.26	0.08	0.50	0.50	0.11	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.01	0.01	0.04	0.21	0.07	0.07	0.21	0.01	0.09	0.23	0.23
s, saturation flow rate [veh/h]	1282	1772	1506	1332	1561	1593	4826	1506	1593	3373	1521
c, Capacity [veh/h]	311	465	395	390	410	133	2407	751	168	1756	792
d1, Uniform Delay [s]	30.42	24.61	25.47	33.55	26.35	40.47	14.26	11.38	39.37	13.47	13.48
k, delay calibration	0.11	0.11	0.11	0.15	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	0.02	0.17	3.49	0.35	9.92	0.53	0.03	8.92	0.82	1.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.02	0.02	0.15	0.72	0.27	0.79	0.42	0.01	0.81	0.45	0.45
d, Delay for Lane Group [s/veh]	30.45	24.63	25.64	37.04	26.70	50.39	14.80	11.41	48.29	14.30	15.31
Lane Group LOS	C	C	C	D	C	D	B	B	D	B	B
Critical Lane Group	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.13	0.16	0.97	6.15	1.90	2.62	4.18	0.09	3.31	4.86	4.62
50th-Percentile Queue Length [ft/ln]	3.16	3.96	24.31	153.72	47.39	65.47	104.58	2.34	82.83	121.49	115.40
95th-Percentile Queue Length [veh/ln]	0.23	0.29	1.75	10.22	3.41	4.71	7.53	0.17	5.96	8.48	8.14
95th-Percentile Queue Length [ft/ln]	5.68	7.13	43.76	255.39	85.31	117.85	188.24	4.21	149.09	211.88	203.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.45	24.63	25.64	37.04	26.70	26.70	50.39	14.80	11.41	48.29	14.33	15.31
Movement LOS	C	C	C	D	C	C	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	25.95			34.11			18.12			18.21		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	20.56											
Intersection LOS	C											
Intersection V/C	0.509											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.350	2.214	2.982	3.358
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	711	489	333
d_b, Bicycle Delay [s]	18.69	18.69	25.69	31.25
l_b,int, Bicycle LOS Score for Intersection	1.685	2.205	2.172	2.261
Bicycle LOS	A	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: I-15 SB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	10.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.448

Intersection Setup

Name							Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	639.00	100.00	100.00	200.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name							Main St			Main St		
Base Volume Input [veh/h]	0	0	0	235	0	172	0	1032	85	0	719	503
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0400	1.0000	1.0400	1.0000	1.0400	1.0400	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	6	0	68	0	33	16	0	138	4
Site-Generated Trips [veh/h]	0	0	0	0	0	35	0	73	30	0	90	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	250	0	282	0	1179	134	0	976	527
Peak Hour Factor	1.0000	1.0000	1.0000	0.9640	1.0000	0.9640	1.0000	0.9640	0.9640	1.0000	0.9640	0.9640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	65	0	73	0	306	35	0	253	137
Total Analysis Volume [veh/h]	0	0	0	259	0	293	0	1223	139	0	1012	547
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	7	0	4	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	5	0	5	0	10	0	0	10	0
Maximum Green [s]	0	0	0	32	0	32	0	20	0	0	20	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	44	0	94	0	46	0	0	46	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	10	0	0	0	3	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		90	90	90	90
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		20	20	62	62
g / C, Green / Cycle		0.23	0.23	0.68	0.68
(v / s)_i Volume / Saturation Flow Rate		0.09	0.19	0.25	0.21
s, saturation flow rate [veh/h]		2912	1506	4826	4826
c, Capacity [veh/h]		665	344	3296	3296
d1, Uniform Delay [s]		29.42	33.28	6.06	5.72
k, delay calibration		0.11	0.11	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.37	6.01	0.32	0.24
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.39	0.85	0.37	0.31
d, Delay for Lane Group [s/veh]		29.80	39.30	6.38	5.97
Lane Group LOS		C	D	A	A
Critical Lane Group		No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		2.37	6.55	2.84	2.21
50th-Percentile Queue Length [ft/ln]		59.28	163.85	70.92	55.36
95th-Percentile Queue Length [veh/ln]		4.27	10.75	5.11	3.99
95th-Percentile Queue Length [ft/ln]		106.70	268.81	127.66	99.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	29.80	0.00	39.30	0.00	6.38	0.00	0.00	5.97	0.00
Movement LOS				C		D		A			A	
d_A, Approach Delay [s/veh]	0.00			34.84			5.75			3.92		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	10.85											
Intersection LOS	B											
Intersection V/C	0.448											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	889	933	933
d_b, Bicycle Delay [s]	45.00	13.89	12.80	12.80
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.232	2.116
Bicycle LOS	D	A	B	B

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: I-15 NB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	10.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	I-15 NB Ramps						Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	639.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	307.42
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	I-15 NB Ramps						Main St			Main St		
Base Volume Input [veh/h]	57	2	383	0	0	0	0	1005	274	0	1117	472
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0000	1.0000	1.0000	1.0000	1.0400	1.0400	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	68	0	6	0	0	0	0	24	16	0	74	4
Site-Generated Trips [veh/h]	36	0	0	0	0	0	0	44	29	0	54	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	2	404	0	0	0	0	1113	330	0	1290	495
Peak Hour Factor	0.9470	0.9470	0.9470	1.0000	1.0000	1.0000	1.0000	0.9470	0.9470	1.0000	0.9470	0.9470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	1	107	0	0	0	0	294	87	0	341	131
Total Analysis Volume [veh/h]	172	2	427	0	0	0	0	1175	348	0	1362	523
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	26	0	0	26	0	0	26	0	0	26	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	31	0	0	94	0	0	59	0	0	59	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No						No			No	
Maximum Recall		No						No			No	
Pedestrian Recall		No						No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R		C	C	R
C, Cycle Length [s]	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	16	16	16		66	66	66
g / C, Green / Cycle	0.18	0.18	0.18		0.74	0.74	0.74
(v / s)_i Volume / Saturation Flow Rate	0.11	0.14	0.14		0.24	0.28	0.35
s, saturation flow rate [veh/h]	1593	1508	1506		4826	4826	1506
c, Capacity [veh/h]	281	266	266		3546	3546	1106
d1, Uniform Delay [s]	34.22	35.59	35.59		4.19	4.41	4.85
k, delay calibration	0.11	0.11	0.11		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	2.16	5.74	5.75		0.25	0.32	1.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.61	0.81	0.81		0.33	0.38	0.47
d, Delay for Lane Group [s/veh]	36.38	41.33	41.34		4.44	4.73	6.30
Lane Group LOS	D	D	D		A	A	A
Critical Lane Group	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.59	4.86	4.86		2.01	2.46	3.43
50th-Percentile Queue Length [ft/ln]	89.67	121.53	121.38		50.26	61.48	85.73
95th-Percentile Queue Length [veh/ln]	6.46	8.48	8.47		3.62	4.43	6.17
95th-Percentile Queue Length [ft/ln]	161.41	211.93	211.73		90.47	110.66	154.32

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.38	41.33	41.34	0.00	0.00	0.00	0.00	4.44	0.00	0.00	4.73	6.30
Movement LOS	D	D	D					A			A	A
d_A, Approach Delay [s/veh]	39.92			0.00			3.46			5.16		
Approach LOS	D			A			A			A		
d_I, Intersection Delay [s/veh]	10.32											
Intersection LOS	B											
Intersection V/C	0.490											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.279	1.937	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	0	1222	1222
d_b, Bicycle Delay [s]	22.05	45.00	6.81	6.81
l_b,int, Bicycle LOS Score for Intersection	2.551	4.132	2.206	2.596
Bicycle LOS	B	D	B	B

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Mariposa Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	20.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.521

Intersection Setup

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	307.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Base Volume Input [veh/h]	70	46	49	67	114	162	122	1115	114	102	1301	54
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	1	0	9	13	17	0	0	69	1
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	44	0	0	54	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	48	51	71	119	177	140	1221	119	106	1476	57
Peak Hour Factor	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	12	13	18	31	45	36	314	31	27	379	15
Total Analysis Volume [veh/h]	75	49	52	73	122	182	144	1255	122	109	1517	59
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	36	0	5	36	0	5	15	0	27	16	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	94	40	0	94	40	0	31	19	0	31	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	0	0	31	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	25	25	25	25	10	45	45	8	43	43
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.11	0.50	0.50	0.09	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.07	0.06	0.06	0.19	0.09	0.21	0.21	0.07	0.24	0.24
s, saturation flow rate [veh/h]	1075	1624	1293	1602	1593	4826	1670	1593	4826	1728
c, Capacity [veh/h]	179	455	355	449	177	2417	837	137	2296	822
d1, Uniform Delay [s]	39.87	24.87	29.59	28.79	39.11	14.23	14.24	40.37	16.28	16.28
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.55	0.24	0.28	1.80	8.79	0.54	1.58	10.07	0.80	2.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.42	0.22	0.21	0.68	0.82	0.42	0.42	0.80	0.51	0.51
d, Delay for Lane Group [s/veh]	41.42	25.12	29.87	30.59	47.91	14.77	15.81	50.44	17.08	18.50
Lane Group LOS	D	C	C	C	D	B	B	D	B	B
Critical Lane Group	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.68	1.66	1.33	5.90	3.49	4.26	4.68	2.72	5.36	6.09
50th-Percentile Queue Length [ft/ln]	41.91	41.53	33.25	147.58	87.34	106.52	116.96	67.97	134.07	152.23
95th-Percentile Queue Length [veh/ln]	3.02	2.99	2.39	9.89	6.29	7.65	8.23	4.89	9.16	10.14
95th-Percentile Queue Length [ft/ln]	75.43	74.75	59.85	247.20	157.22	191.15	205.64	122.35	229.02	253.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.42	25.12	25.12	29.87	30.59	30.59	47.91	14.96	15.81	50.44	17.41	18.50
Movement LOS	D	C	C	C	C	C	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	32.07			30.45			18.15			19.58		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	20.68											
Intersection LOS	C											
Intersection V/C	0.521											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.114	2.146	3.314	3.287
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	800	333	333
d_b, Bicycle Delay [s]	16.20	16.20	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	1.850	2.182	2.187	2.255
Bicycle LOS	A	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Mountain Vista Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	13.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.467

Intersection Setup

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	330.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Base Volume Input [veh/h]	13	0	18	102	3	31	26	1196	8	59	1459	94
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	18	0	0	70	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	44	0	0	54	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	0	19	106	3	32	27	1306	8	61	1641	98
Peak Hour Factor	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	5	28	1	8	7	343	2	16	431	26
Total Analysis Volume [veh/h]	15	0	20	111	3	34	28	1372	8	64	1724	103
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	10	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	10	0	10	0	6	10	0	5	10	0
Amber [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	40	40	0	47	0	10	33	0	10	33	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	31	0	38	0	0	24	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No	No		No		No	No		No	No	
Maximum Recall		No	No		No		No	No		No	No	
Pedestrian Recall		No	No		No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	L	C	C	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	7	7	18	10	10	3	90	90	7	94	94
g / C, Green / Cycle	0.06	0.06	0.06	0.14	0.08	0.08	0.02	0.69	0.69	0.05	0.72	0.72
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.00	0.01	0.05	0.05	0.01	0.23	0.23	0.04	0.40	0.08
s, saturation flow rate [veh/h]	1434	1518	1594	2399	1434	1443	2621	4343	1588	1434	4343	1355
c, Capacity [veh/h]	80	84	89	339	111	111	64	2994	1095	79	3126	975
d1, Uniform Delay [s]	58.28	58.26	0.00	48.33	58.33	58.41	62.52	8.18	8.18	60.76	8.47	5.53
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.51	0.45	0.00	0.07	6.54	6.96	4.59	0.31	0.84	17.65	0.71	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.09	0.09	0.00	0.06	0.66	0.68	0.44	0.34	0.34	0.81	0.55	0.11
d, Delay for Lane Group [s/veh]	58.78	58.71	0.00	48.40	64.88	65.37	67.11	8.48	9.01	78.41	9.17	5.74
Lane Group LOS	E	E	A	D	E	E	E	A	A	E	A	A
Critical Lane Group	No	No	No	Yes	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.25	0.25	0.00	0.29	2.54	2.63	0.50	3.74	4.26	2.48	7.08	0.86
50th-Percentile Queue Length [ft/ln]	6.17	6.15	0.00	7.18	63.49	65.69	12.47	93.40	106.54	61.98	177.08	21.59
95th-Percentile Queue Length [veh/ln]	0.44	0.44	0.00	0.52	4.57	4.73	0.90	6.72	7.65	4.46	11.45	1.55
95th-Percentile Queue Length [ft/ln]	11.10	11.06	0.00	12.92	114.29	118.24	22.44	168.12	191.18	111.57	286.20	38.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	58.74	29.35	48.40	65.04	65.37	65.37	67.11	8.62	9.01	78.41	9.17	5.74
Movement LOS	E	C	D	E	E	E	E	A	A	E	A	A
d_A, Approach Delay [s/veh]	52.83			65.13			9.79			11.33		
Approach LOS	D			E			A			B		
d_I, Intersection Delay [s/veh]	13.41											
Intersection LOS	B											
Intersection V/C	0.467											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.628	2.218	3.296	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	662	446	446
d_b, Bicycle Delay [s]	33.98	29.11	39.23	39.23
l_b,int, Bicycle LOS Score for Intersection	1.588	1.804	2.140	2.600
Bicycle LOS	A	A	B	B

Sequence

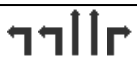
Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Escondido Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	27.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.589

Intersection Setup

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	661.02
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	3
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	160.47
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Base Volume Input [veh/h]	626	14	325	3	2	12	10	863	430	318	829	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	18	0	0	70	0
Site-Generated Trips [veh/h]	18	0	0	0	0	0	0	30	14	0	36	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	669	15	338	3	2	12	10	946	461	331	968	6
Peak Hour Factor	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	173	4	87	1	1	3	3	244	119	85	250	2
Total Analysis Volume [veh/h]	691	15	349	3	2	12	10	977	476	342	1000	6
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	0	3	8	8	7	4	0
Auxiliary Signal Groups			6,7						1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	10	5	10	0
Maximum Green [s]	5	10	10	12	10	0	6	10	10	6	10	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	47	64	64	16	33	0	10	30	30	10	30	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	5	0	5	0
Pedestrian Clearance [s]	0	27	27	0	24	0	0	21	21	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No		No	No	No	No	No	
Maximum Recall	No	No	No	No	No		No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	36	61	0	4	1	46	83	22	66	66
g / C, Green / Cycle	0.27	0.30	0.51	0.00	0.03	0.01	0.38	0.69	0.18	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.24	0.01	0.23	0.00	0.01	0.01	0.20	0.32	0.12	0.30	0.00
s, saturation flow rate [veh/h]	2912	1772	1506	1593	1539	1593	4826	1506	2912	3373	1506
c, Capacity [veh/h]	790	530	771	7	49	19	1850	1036	524	1860	830
d1, Uniform Delay [s]	41.76	29.74	18.58	59.59	56.75	58.94	28.60	8.54	45.71	17.16	12.12
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.38	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.24	0.02	0.42	37.55	3.13	20.55	1.08	1.11	1.38	1.12	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.03	0.45	0.43	0.29	0.52	0.53	0.46	0.65	0.54	0.01
d, Delay for Lane Group [s/veh]	45.00	29.76	18.99	97.14	59.88	79.50	29.69	9.64	47.09	18.28	12.14
Lane Group LOS	D	C	B	F	E	E	C	A	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	10.05	0.31	6.16	0.16	0.46	0.41	7.40	5.55	4.84	8.85	0.08
50th-Percentile Queue Length [ft/ln]	251.27	7.83	154.08	4.08	11.45	10.28	184.98	138.65	120.88	221.34	1.91
95th-Percentile Queue Length [veh/ln]	15.25	0.56	10.23	0.29	0.82	0.74	11.86	9.41	8.44	13.73	0.14
95th-Percentile Queue Length [ft/ln]	381.26	14.09	255.87	7.35	20.61	18.51	296.51	235.20	211.04	343.34	3.43

Movement, Approach, & Intersection Results

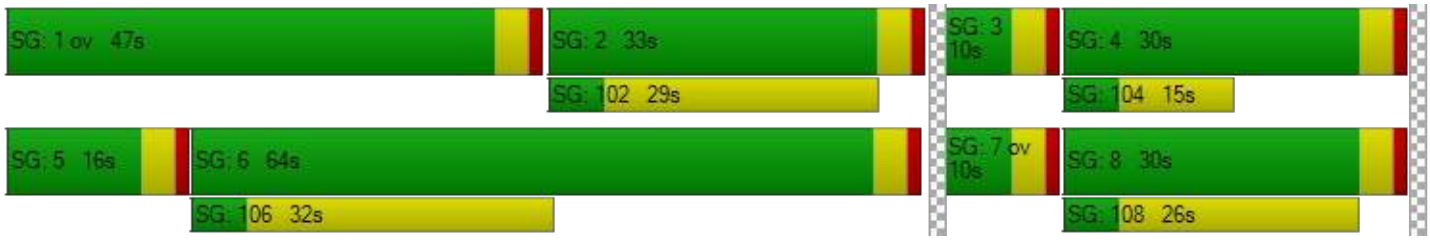
d_M, Delay for Movement [s/veh]	45.00	29.76	18.99	97.14	59.88	59.88	79.50	29.69	9.64	47.09	18.28	12.14
Movement LOS	D	C	B	F	E	E	E	C	A	D	B	B
d_A, Approach Delay [s/veh]	36.18			66.46			23.51			25.56		
Approach LOS	D			E			C			C		
d_I, Intersection Delay [s/veh]	27.85											
Intersection LOS	C											
Intersection V/C	0.589											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.773	1.971	3.127	3.243
Crosswalk LOS	C	A	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1000	483	433	433
d_b, Bicycle Delay [s]	15.00	34.50	36.82	36.82
l_b,int, Bicycle LOS Score for Intersection	3.300	1.588	2.364	2.672
Bicycle LOS	C	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Topaz Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	27.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.644

Intersection Setup

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	1279.32	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Base Volume Input [veh/h]	175	70	52	110	76	88	62	1073	95	28	925	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	18	0	0	70	0
Site-Generated Trips [veh/h]	9	0	0	0	0	9	8	14	8	0	18	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	191	73	54	114	79	101	72	1148	107	29	1050	107
Peak Hour Factor	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	22	16	34	23	30	21	341	32	9	312	32
Total Analysis Volume [veh/h]	227	87	64	135	94	120	86	1363	127	34	1247	127
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	34	10	0	6	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	33	0	38	47	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29	29	29	6	46	46	3	43	43
g / C, Green / Cycle	0.32	0.32	0.32	0.32	0.07	0.51	0.51	0.03	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.19	0.09	0.11	0.13	0.05	0.40	0.08	0.02	0.39	0.40
s, saturation flow rate [veh/h]	1167	1648	1236	1612	1593	3373	1506	1593	1772	1715
c, Capacity [veh/h]	309	531	366	519	111	1729	772	51	841	814
d1, Uniform Delay [s]	36.10	22.76	29.84	23.84	41.15	17.95	11.68	43.08	20.46	20.54
k, delay calibration	0.16	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.93	0.29	0.62	0.52	10.72	3.74	0.46	13.84	9.19	9.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.28	0.37	0.41	0.77	0.79	0.16	0.67	0.83	0.83
d, Delay for Lane Group [s/veh]	41.03	23.05	30.46	24.37	51.87	21.69	12.14	56.91	29.65	30.30
Lane Group LOS	D	C	C	C	D	C	B	E	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.27	2.38	2.54	3.55	2.19	11.54	1.39	0.94	13.87	13.68
50th-Percentile Queue Length [ft/ln]	131.83	59.51	63.44	88.63	54.63	288.38	34.71	23.43	346.80	341.95
95th-Percentile Queue Length [veh/ln]	9.04	4.28	4.57	6.38	3.93	17.11	2.50	1.69	19.98	19.74
95th-Percentile Queue Length [ft/ln]	225.98	107.11	114.20	159.54	98.34	427.63	62.49	42.17	499.51	493.59

Movement, Approach, & Intersection Results

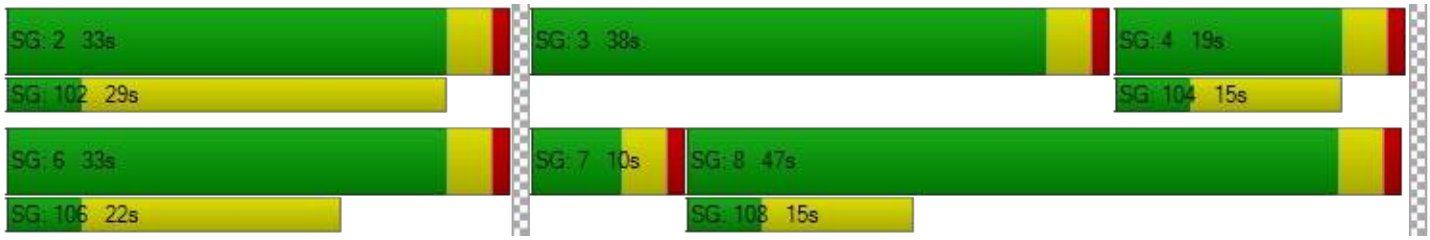
d_M, Delay for Movement [s/veh]	41.03	23.05	23.05	30.46	24.37	24.37	51.87	21.69	12.14	56.91	29.94	30.30
Movement LOS	D	C	C	C	C	C	D	C	B	E	C	C
d_A, Approach Delay [s/veh]	33.85			26.72			22.56			30.62		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	27.16											
Intersection LOS	C											
Intersection V/C	0.644											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.287	2.153	3.360	3.129
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	644	956	333
d_b, Bicycle Delay [s]	20.67	20.67	12.27	31.25
l_b,int, Bicycle LOS Score for Intersection	2.183	2.135	2.860	2.721
Bicycle LOS	B	B	C	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 101: Keypointe Dr at South Fuel Entrance Dwy

Control Type:	Two-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Keypointe Dr		Keypointe Dr		South Fuel Entrance Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Keypointe Dr		Keypointe Dr		South Fuel Entrance Dwy	
Base Volume Input [veh/h]	147	0	0	113	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0000	1.0000
In-Process Volume [veh/h]	29	0	0	7	0	0
Site-Generated Trips [veh/h]	97	64	9	131	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	18	73	0	46	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	297	137	9	302	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	36	2	79	0	0
Total Analysis Volume [veh/h]	313	144	9	318	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	8.28	0.00	0.00	0.00
Movement LOS	A	A	A	A		
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.38	0.19	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.23		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 102: Amargosa Rd at West Retail Dwy/West Fuel Dwy

Control Type:	Signalized	Delay (sec / veh):	12.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.268

Intersection Setup

Name	West Fuel Exit Dwy			West Retail Dwy			Amargosa Rd			Amargosa Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	West Fuel Exit Dwy			West Retail Dwy			Amargosa Rd			Amargosa Rd		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	219	0	0	157	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	69	0	0	16	0
Site-Generated Trips [veh/h]	83	0	5	5	0	37	61	17	19	0	20	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	91	0	0	0	0	0	0	0	18	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	174	0	5	5	0	37	61	314	37	0	199	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	0	1	1	0	10	16	83	10	0	52	0
Total Analysis Volume [veh/h]	183	0	5	5	0	39	64	331	39	0	209	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	0	10	0
Maximum Green [s]	0	12	0	0	10	0	28	56	0	0	24	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	32	0	0	14	0	64	14	0	0	14	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	5	5	33	33	33	33	33
g / C, Green / Cycle	0.16	0.16	0.16	0.09	0.09	0.55	0.55	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.12	0.00	0.00	0.00	0.03	0.06	0.12	0.12	0.07	0.07
s, saturation flow rate [veh/h]	1518	1594	1355	1518	1355	1055	1594	1536	1594	1594
c, Capacity [veh/h]	246	258	219	132	118	620	878	847	878	878
d1, Uniform Delay [s]	23.97	21.08	21.16	25.08	25.73	8.84	6.85	6.87	6.47	6.47
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.45	0.00	0.04	0.12	1.61	0.33	0.55	0.58	0.28	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.00	0.02	0.04	0.33	0.10	0.21	0.22	0.12	0.12
d, Delay for Lane Group [s/veh]	28.41	21.08	21.20	25.19	27.34	9.17	7.41	7.45	6.75	6.75
Lane Group LOS	C	C	C	C	C	A	A	A	A	A
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.61	0.00	0.06	0.07	0.55	0.46	1.11	1.09	0.58	0.58
50th-Percentile Queue Length [ft/ln]	65.36	0.00	1.46	1.65	13.70	11.41	27.67	27.13	14.48	14.48
95th-Percentile Queue Length [veh/ln]	4.71	0.00	0.10	0.12	0.99	0.82	1.99	1.95	1.04	1.04
95th-Percentile Queue Length [ft/ln]	117.65	0.00	2.62	2.97	24.67	20.54	49.80	48.84	26.06	26.06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.41	21.08	21.20	25.19	26.27	27.34	9.17	7.43	7.45	0.00	6.75	6.75
Movement LOS	C	C	C	C	C	C	A	A	A		A	A
d_A, Approach Delay [s/veh]	28.22			27.10			7.69			6.75		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	12.85											
Intersection LOS	B											
Intersection V/C	0.268											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	933	333	333	333
d_b, Bicycle Delay [s]	8.53	20.83	20.83	20.83
l_b,int, Bicycle LOS Score for Intersection	1.715	1.596	1.918	1.732
Bicycle LOS	A	A	A	A

Sequence

Ring 1	-	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 103: Amargosa Rd at East Retail Dwy/East Fuel Exit Dwy

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	East Fuel Exit Dwy			East Retail Dwy			Amargosa Rd			Amargosa Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	East Fuel Exit Dwy			East Retail Dwy			Amargosa Rd			Amargosa Rd		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	219	0	0	157	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0400	1.0000	1.0000	1.0400	1.0400	1.0400	1.0400	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	69	0	0	16	0
Site-Generated Trips [veh/h]	0	0	5	0	0	11	17	10	0	0	9	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	5	0	0	11	17	307	0	0	188	9
Peak Hour Factor	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	0	0	3	4	81	0	0	49	2
Total Analysis Volume [veh/h]	0	0	5	0	0	12	18	323	0	0	198	9
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	9.24	0.00	0.00	8.89	7.68	0.00	0.00	0.00	0.00	0.00
Movement LOS			A			A	A	A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.00	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.44	0.00	0.00	0.97	1.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.24			8.89			0.41			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.52											
Intersection LOS	A											

Hesperia Big Box Retail and Fuel Station

Vistro File: K:\...\Hesperia Big Box Retail and Fuel Station_PM.vistro

Scenario 3 OY CUM WP PM

Report File: K:\...\3. OY CUM WP PM.pdf

3/12/2025

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Keypointe Dr at Amargosa Rd	Two-way stop	HCM 7th Edition	NB Left	0.435	346.3	F
2	US-395 at Phelan Rd/Main St	Signalized	HCM 7th Edition	SB Left	0.893	75.4	E
3	Mesa Linda St at Main St	Signalized	HCM 7th Edition	EB Left	0.368	12.9	B
4	Cataba Rd at Main St	Signalized	HCM 7th Edition	EB Left	0.499	28.0	C
5	Keypointe Dr at Main St	Signalized	HCM 7th Edition	EB Left	1.033	78.7	E
6	I-15 SB Ramps at Main St	Signalized	HCM 7th Edition	SB Right	0.606	14.7	B
7	I-15 NB Ramps at Main St	Signalized	HCM 7th Edition	NB Right	0.616	15.7	B
8	Mariposa Rd at Main St	Signalized	HCM 7th Edition	WB Left	0.685	30.7	C
9	Mountain Vista Ave at Main St	Signalized	HCM 7th Edition	WB Left	0.485	16.5	B
10	Escondido Ave at Main St	Signalized	HCM 7th Edition	EB Left	0.848	47.6	D
11	Topaz Ave at Main St	Signalized	HCM 7th Edition	WB Left	0.616	20.9	C
101	Keypointe Dr at South Fuel Entrance Dwy	Two-way stop	HCM 7th Edition	SB Left	0.016	9.4	A
102	Amargosa Rd at West Retail Dwy/West Fuel Dwy	Signalized	HCM 7th Edition	EB Left	0.619	21.7	C
103	Amargosa Rd at East Retail Dwy/East Fuel Exit Dwy	Two-way stop	HCM 7th Edition	SB Right	0.083	10.4	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Keypointe Dr at Amargosa Rd

Control Type:	Two-way stop	Delay (sec / veh):	346.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.435

Intersection Setup

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	1	0	1
Exit Pocket Length [ft]	0.00	100.00	0.00	49.21	0.00	477.13
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Base Volume Input [veh/h]	6	244	116	13	279	142
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	15	20	0	23	32
Site-Generated Trips [veh/h]	0	203	0	0	312	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	101	0	0	197	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	573	141	14	822	180
Peak Hour Factor	0.9220	0.9220	0.9220	0.9220	0.9220	0.9220
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	155	38	4	223	49
Total Analysis Volume [veh/h]	7	621	153	15	892	195
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.43	0.65	0.00	0.00	0.63	0.00
d_M, Delay for Movement [s/veh]	346.33	15.39	0.00	0.00	10.24	0.00
Movement LOS	F	C	A	A	B	A
95th-Percentile Queue Length [veh/ln]	1.15	4.94	0.00	0.00	3.53	1.76
95th-Percentile Queue Length [ft/ln]	28.71	123.56	0.00	0.00	88.24	44.12
d_A, Approach Delay [s/veh]	19.08		0.00		8.40	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	11.21					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 2: US-395 at Phelan Rd/Main St

Control Type:	Signalized	Delay (sec / veh):	75.4
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.893

Intersection Setup

Name	US-395			US-395			Phelan Rd			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395			US-395			Phelan Rd			Main St		
Base Volume Input [veh/h]	99	885	54	237	536	35	36	500	44	6	557	453
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	73	0	0	0	0	12	0	46	15	0
Site-Generated Trips [veh/h]	0	0	0	32	0	0	0	32	0	0	33	33
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	103	920	129	278	557	36	37	564	46	52	627	504
Peak Hour Factor	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	243	34	73	147	9	10	149	12	14	165	133
Total Analysis Volume [veh/h]	109	970	136	293	588	38	39	595	49	55	661	532
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	16	29	0	16	28	0	15	29	0	6	15	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	28	29	0	18	19	0	10	33	0	10	33	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	25	25	14	31	31	3	31	31	4	32	32
g / C, Green / Cycle	0.09	0.28	0.28	0.16	0.35	0.35	0.03	0.35	0.35	0.04	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.07	0.32	0.32	0.18	0.18	0.18	0.02	0.18	0.18	0.03	0.36	0.37
s, saturation flow rate [veh/h]	1593	1772	1696	1593	1772	1734	1593	1772	1725	1593	1772	1515
c, Capacity [veh/h]	139	492	471	248	613	600	56	614	597	68	627	536
d1, Uniform Delay [s]	40.25	32.50	32.50	38.00	23.42	23.42	42.95	23.56	23.58	42.73	29.08	29.08
k, delay calibration	0.11	0.44	0.44	0.44	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.30	85.46	87.38	112.04	0.67	0.69	14.48	3.27	3.38	19.94	41.26	47.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	1.15	1.15	1.18	0.52	0.52	0.70	0.53	0.53	0.81	1.02	1.03
d, Delay for Lane Group [s/veh]	49.55	117.96	119.88	150.04	24.10	24.11	57.42	26.84	26.95	62.67	70.34	76.60
Lane Group LOS	D	F	F	F	C	C	E	C	C	E	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.69	22.02	21.34	13.06	5.29	5.18	1.07	5.93	5.81	1.58	20.05	18.07
50th-Percentile Queue Length [ft/ln]	67.36	550.49	533.40	326.62	132.24	129.51	26.86	148.29	145.18	39.38	501.21	451.81
95th-Percentile Queue Length [veh/ln]	4.85	32.19	31.35	20.45	9.06	8.91	1.93	9.93	9.76	2.84	27.78	25.59
95th-Percentile Queue Length [ft/ln]	121.24	804.82	783.86	511.26	226.54	222.83	48.34	248.15	243.98	70.88	694.51	639.79

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.55	118.76	119.88	150.04	24.10	24.11	57.42	26.89	26.95	62.67	70.54	76.60
Movement LOS	D	F	F	F	C	C	E	C	C	E	E	E
d_A, Approach Delay [s/veh]	112.68			64.26			28.64			72.78		
Approach LOS	F			E			C			E		
d_I, Intersection Delay [s/veh]	75.36											
Intersection LOS	E											
Intersection V/C	0.893											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	333	644	644
d_b, Bicycle Delay [s]	23.47	31.25	20.67	20.67
l_b,int, Bicycle LOS Score for Intersection	2.562	2.318	2.123	2.589
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Mesa Linda St at Main St

Control Type:	Signalized	Delay (sec / veh):	12.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.368

Intersection Setup

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	460.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Base Volume Input [veh/h]	15	2	80	23	1	1	6	880	14	43	998	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	46	0	0	0	0	85	0	29	61	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	64	0	0	66	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	2	129	24	1	1	6	1064	15	74	1165	46
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	33	6	0	0	2	274	4	19	300	12
Total Analysis Volume [veh/h]	16	2	133	25	1	1	6	1097	15	76	1201	47
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	29	0	0	20	0	11	10	0	25	29	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	14	0	15	14	0	29	28	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	5	5	1	54	54	5	58	58
g / C, Green / Cycle	0.11	0.11	0.05	0.05	0.01	0.60	0.60	0.06	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate	0.01	0.09	0.02	0.00	0.00	0.22	0.22	0.05	0.24	0.24
s, saturation flow rate [veh/h]	1696	1506	1690	1506	1593	3373	1759	1593	3373	1738
c, Capacity [veh/h]	187	166	93	82	13	2010	1049	97	2189	1128
d1, Uniform Delay [s]	36.00	39.07	40.83	40.23	44.43	9.38	9.38	41.65	7.34	7.34
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.22	8.56	1.63	0.06	23.19	0.51	0.98	12.59	0.50	0.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.10	0.80	0.28	0.01	0.46	0.36	0.36	0.78	0.38	0.38
d, Delay for Lane Group [s/veh]	36.22	47.63	42.47	40.29	67.62	9.89	10.36	54.24	7.83	8.30
Lane Group LOS	D	D	D	D	E	A	B	D	A	A
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.36	3.22	0.59	0.02	0.22	3.50	3.79	1.98	3.35	3.60
50th-Percentile Queue Length [ft/ln]	9.09	80.50	14.75	0.55	5.40	87.50	94.72	49.60	83.83	90.02
95th-Percentile Queue Length [veh/ln]	0.65	5.80	1.06	0.04	0.39	6.30	6.82	3.57	6.04	6.48
95th-Percentile Queue Length [ft/ln]	16.37	144.91	26.55	0.99	9.72	157.50	170.50	89.29	150.89	162.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.22	36.22	47.63	42.47	42.47	40.29	67.62	10.04	10.36	54.24	7.98	8.30
Movement LOS	D	D	D	D	D	D	E	B	B	D	A	A
d_A, Approach Delay [s/veh]	46.27			42.39			10.36			10.65		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	12.90											
Intersection LOS	B											
Intersection V/C	0.368											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersectio	0.000	1.968	0.000	2.955
Crosswalk LOS	F	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	222	222	533
d_b, Bicycle Delay [s]	20.67	35.56	35.56	24.20
l_b,int, Bicycle LOS Score for Intersection	1.809	1.604	2.175	2.288
Bicycle LOS	A	A	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Cataba Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	28.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.499

Intersection Setup

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	260.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Base Volume Input [veh/h]	151	47	184	40	39	114	83	714	140	173	786	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	30	0	9	6	128	0	0	85	22
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	64	0	0	66	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	157	49	191	72	41	128	92	935	146	180	968	51
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	13	51	19	11	34	24	248	39	48	257	14
Total Analysis Volume [veh/h]	167	52	203	77	44	136	98	994	155	191	1029	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	23	0	0	23	0	0	10	0	6	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	38	0	0	36	0	10	26	0	10	26	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	17	17	12	12	12	8	55	55	10	56	56
g / C, Green / Cycle	0.16	0.16	0.16	0.11	0.11	0.11	0.08	0.50	0.50	0.09	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.07	0.07	0.13	0.05	0.02	0.09	0.06	0.21	0.10	0.07	0.21	0.21
s, saturation flow rate [veh/h]	1593	1725	1506	1593	1772	1506	1593	4826	1506	2912	3373	1727
c, Capacity [veh/h]	254	275	240	179	199	169	121	2394	747	253	1709	875
d1, Uniform Delay [s]	41.62	41.62	44.93	45.54	44.44	47.64	50.01	17.59	15.57	49.08	16.99	16.99
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.08	1.00	8.01	1.63	0.55	8.60	11.81	0.53	0.63	4.55	0.76	1.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.41	0.85	0.43	0.22	0.80	0.81	0.42	0.21	0.76	0.42	0.42
d, Delay for Lane Group [s/veh]	42.70	42.62	52.94	47.17	45.00	56.24	61.82	18.12	16.20	53.64	17.74	18.46
Lane Group LOS	D	D	D	D	D	E	E	B	B	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.65	2.86	5.89	2.04	1.12	4.03	3.04	5.33	2.29	2.72	5.71	6.03
50th-Percentile Queue Length [ft/ln]	66.13	71.39	147.15	51.08	28.12	100.74	76.10	133.33	57.25	67.91	142.87	150.71
95th-Percentile Queue Length [veh/ln]	4.76	5.14	9.86	3.68	2.02	7.25	5.48	9.12	4.12	4.89	9.64	10.06
95th-Percentile Queue Length [ft/ln]	119.04	128.51	246.61	91.94	50.62	181.34	136.98	228.02	103.05	122.24	240.88	251.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.67	42.62	52.94	47.17	45.00	56.24	61.82	18.12	16.20	53.64	17.96	18.46
Movement LOS	D	D	D	D	D	E	E	B	B	D	B	B
d_A, Approach Delay [s/veh]	47.61			51.60			21.31			23.33		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	28.02											
Intersection LOS	C											
Intersection V/C	0.499											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	46.37	46.37	46.37	46.37
l_p,int, Pedestrian LOS Score for Intersectio	2.469	2.401	3.051	3.047
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	618	582	400	400
d_b, Bicycle Delay [s]	26.25	27.65	35.20	35.20
l_b,int, Bicycle LOS Score for Intersection	2.256	1.984	2.245	2.260
Bicycle LOS	B	A	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Keypointe Dr at Main St

Control Type:	Signalized	Delay (sec / veh):	78.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.033

Intersection Setup

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	741.32	180.00	100.00	366.47	192.10	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Base Volume Input [veh/h]	30	48	217	218	80	19	38	933	20	269	1013	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	23	0	0	0	157	0	0	106	15
Site-Generated Trips [veh/h]	0	0	0	234	0	66	64	0	0	0	0	224
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	99	0	98	96	-96	0	0	-94	94
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	50	226	583	83	184	200	1031	21	280	1066	520
Peak Hour Factor	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	13	58	150	21	47	51	265	5	72	274	134
Total Analysis Volume [veh/h]	32	51	233	600	85	189	206	1062	22	288	1098	536
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	36	0	0	36	0	10	26	0	28	44	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	32	32	32	32	32	6	28	28	18	40	40
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.36	0.07	0.31	0.31	0.20	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.03	0.03	0.15	0.55	0.17	0.13	0.22	0.01	0.18	0.33	0.36
s, saturation flow rate [veh/h]	1105	1772	1506	1095	1579	1593	4826	1506	1593	3373	1506
c, Capacity [veh/h]	301	630	535	424	562	106	1483	463	325	1499	669
d1, Uniform Delay [s]	29.68	19.24	22.11	33.53	22.61	42.00	27.68	21.91	34.82	20.59	21.56
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.50	0.50	0.50	0.21	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.15	0.05	0.56	200.25	0.66	455.11	2.99	0.19	14.07	3.20	9.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.11	0.08	0.44	1.42	0.49	1.94	0.72	0.05	0.89	0.73	0.80
d, Delay for Lane Group [s/veh]	29.83	19.30	22.67	233.78	23.27	497.11	30.67	22.11	48.89	23.79	31.32
Lane Group LOS	C	B	C	F	C	F	C	C	D	C	C
Critical Lane Group	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.58	0.70	3.73	32.96	4.49	15.76	6.95	0.35	7.26	9.62	10.97
50th-Percentile Queue Length [ft/ln]	14.43	17.60	93.23	824.10	112.19	393.93	173.77	8.67	181.52	240.60	274.30
95th-Percentile Queue Length [veh/ln]	1.04	1.27	6.71	51.31	7.96	25.96	11.27	0.62	11.68	14.71	16.40
95th-Percentile Queue Length [ft/ln]	25.97	31.68	167.81	1282.73	199.04	648.94	281.87	15.60	291.99	367.79	410.11

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.83	19.30	22.67	233.78	23.27	23.27	497.11	30.67	22.11	48.89	23.79	31.32
Movement LOS	C	B	C	F	C	C	F	C	C	D	C	C
d_A, Approach Delay [s/veh]	22.85			167.78			105.01			29.65		
Approach LOS	C			F			F			C		
d_I, Intersection Delay [s/veh]	78.67											
Intersection LOS	E											
Intersection V/C	1.033											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.440	2.483	3.090	3.981
Crosswalk LOS	B	B	C	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	711	489	889
d_b, Bicycle Delay [s]	18.69	18.69	25.69	13.89
l_b,int, Bicycle LOS Score for Intersection	2.081	3.002	2.269	2.617
Bicycle LOS	B	C	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: I-15 SB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	14.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.606

Intersection Setup

Name							Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	639.00	100.00	100.00	200.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name							Main St			Main St		
Base Volume Input [veh/h]	0	0	0	470	0	291	0	1180	138	0	1131	342
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0400	1.0000	1.0400	1.0000	1.0400	1.0400	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	13	0	40	0	121	59	0	80	13
Site-Generated Trips [veh/h]	0	0	0	0	0	64	0	167	67	0	160	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	502	0	407	0	1515	270	0	1416	369
Peak Hour Factor	1.0000	1.0000	1.0000	0.9650	1.0000	0.9650	1.0000	0.9650	0.9650	1.0000	0.9650	0.9650
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	130	0	105	0	392	70	0	367	96
Total Analysis Volume [veh/h]	0	0	0	520	0	422	0	1570	280	0	1467	382
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	7	0	4	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	5	0	5	0	10	0	0	10	0
Maximum Green [s]	0	0	0	32	0	32	0	20	0	0	20	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	46	0	94	0	44	0	0	44	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	10	0	0	0	3	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		90	90	90	90
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		29	29	53	53
g / C, Green / Cycle		0.32	0.32	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate		0.18	0.28	0.33	0.30
s, saturation flow rate [veh/h]		2912	1506	4826	4826
c, Capacity [veh/h]		931	481	2855	2855
d1, Uniform Delay [s]		25.37	28.95	11.13	10.78
k, delay calibration		0.11	0.17	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.53	7.75	0.77	0.66
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.56	0.88	0.55	0.51
d, Delay for Lane Group [s/veh]		25.89	36.70	11.89	11.45
Lane Group LOS		C	D	B	B
Critical Lane Group		No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		4.55	9.33	5.87	5.31
50th-Percentile Queue Length [ft/ln]		113.69	233.33	146.67	132.64
95th-Percentile Queue Length [veh/ln]		8.04	14.34	9.84	9.08
95th-Percentile Queue Length [ft/ln]		201.12	358.58	245.98	227.08

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	25.89	0.00	36.70	0.00	11.89	0.00	0.00	11.45	0.00
Movement LOS				C		D		B			B	
d_A, Approach Delay [s/veh]	0.00			30.73			10.15			9.15		
Approach LOS	A			C			B			A		
d_I, Intersection Delay [s/veh]	14.65											
Intersection LOS	B											
Intersection V/C	0.606											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	933	889	889
d_b, Bicycle Delay [s]	45.00	12.80	13.89	13.89
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.423	2.366
Bicycle LOS	D	A	B	B

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: I-15 NB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	15.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.616

Intersection Setup

Name	I-15 NB Ramps						Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	639.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	307.42
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	I-15 NB Ramps						Main St			Main St		
Base Volume Input [veh/h]	183	4	731	0	0	0	0	1372	251	0	1276	391
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0000	1.0000	1.0000	1.0000	1.0400	1.0400	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	40	0	13	0	0	0	0	75	59	0	55	13
Site-Generated Trips [veh/h]	64	0	0	0	0	0	0	100	67	0	96	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	294	4	773	0	0	0	0	1602	387	0	1478	420
Peak Hour Factor	0.9580	0.9580	0.9580	1.0000	1.0000	1.0000	1.0000	0.9580	0.9580	1.0000	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	1	202	0	0	0	0	418	101	0	386	110
Total Analysis Volume [veh/h]	307	4	807	0	0	0	0	1672	404	0	1543	438
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	26	0	0	26	0	0	19	0	0	19	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	67	0	0	94	0	0	23	0	0	23	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No						No			No	
Maximum Recall		No						No			No	
Pedestrian Recall		No						No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R		C	C	R
C, Cycle Length [s]	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	28	28	28		54	54	54
g / C, Green / Cycle	0.31	0.31	0.31		0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.19	0.27	0.27		0.35	0.32	0.29
s, saturation flow rate [veh/h]	1593	1508	1506		4826	4826	1506
c, Capacity [veh/h]	501	474	474		2879	2879	898
d1, Uniform Delay [s]	26.19	28.92	28.94		11.20	10.76	10.33
k, delay calibration	0.11	0.11	0.11		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	1.22	4.52	4.57		0.86	0.72	1.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.61	0.85	0.86		0.58	0.54	0.49
d, Delay for Lane Group [s/veh]	27.41	33.45	33.51		12.07	11.48	12.22
Lane Group LOS	C	C	C		B	B	B
Critical Lane Group	No	No	Yes		Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.60	8.51	8.52		6.35	5.62	4.91
50th-Percentile Queue Length [ft/ln]	139.94	212.82	213.06		158.81	140.50	122.66
95th-Percentile Queue Length [veh/ln]	9.48	13.30	13.31		10.49	9.51	8.54
95th-Percentile Queue Length [ft/ln]	236.94	332.44	332.75		262.15	237.70	213.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.41	33.45	33.48	0.00	0.00	0.00	0.00	12.07	0.00	0.00	11.48	12.22
Movement LOS	C	C	C					B			B	B
d_A, Approach Delay [s/veh]	31.81			0.00			9.80			11.65		
Approach LOS	C			A			A			B		
d_I, Intersection Delay [s/veh]	15.72											
Intersection LOS	B											
Intersection V/C	0.616											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.405	1.856	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1400	0	422	422
d_b, Bicycle Delay [s]	4.05	45.00	28.01	28.01
l_b,int, Bicycle LOS Score for Intersection	3.404	4.132	2.479	2.649
Bicycle LOS	C	D	B	B

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Mariposa Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	30.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.685

Intersection Setup

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	307.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Base Volume Input [veh/h]	100	95	62	142	96	202	283	1637	187	80	1309	107
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	3	0	30	30	58	0	0	38	3
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	100	0	0	96	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	104	99	64	151	100	240	324	1860	194	83	1495	114
Peak Hour Factor	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	25	16	39	26	62	83	478	50	21	385	29
Total Analysis Volume [veh/h]	107	102	66	155	103	247	333	1914	200	85	1538	117
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	36	0	5	36	0	5	16	0	9	16	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	94	40	0	94	40	0	31	40	0	10	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	0	0	31	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	30	30	30	30	21	42	42	6	27	27
g / C, Green / Cycle	0.34	0.34	0.34	0.34	0.23	0.46	0.46	0.07	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.10	0.10	0.13	0.22	0.21	0.33	0.33	0.05	0.25	0.25
s, saturation flow rate [veh/h]	1031	1657	1217	1575	1593	4826	1664	1593	4826	1690
c, Capacity [veh/h]	213	559	376	531	370	2235	770	106	1434	502
d1, Uniform Delay [s]	38.07	22.00	29.55	25.41	33.53	19.23	19.27	41.44	29.79	29.80
k, delay calibration	0.11	0.11	0.11	0.13	0.14	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.82	0.30	0.72	1.66	10.28	1.88	5.38	13.11	6.69	16.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.30	0.41	0.66	0.90	0.70	0.71	0.80	0.85	0.85
d, Delay for Lane Group [s/veh]	39.89	22.30	30.27	27.08	43.81	21.11	24.65	54.55	36.48	46.59
Lane Group LOS	D	C	C	C	D	C	C	D	D	D
Critical Lane Group	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.37	2.61	2.93	6.41	7.92	8.55	9.64	2.22	8.92	10.79
50th-Percentile Queue Length [ft/ln]	59.13	65.24	73.23	160.36	198.04	213.72	241.04	55.55	222.92	269.66
95th-Percentile Queue Length [veh/ln]	4.26	4.70	5.27	10.57	12.54	13.34	14.73	4.00	13.81	16.17
95th-Percentile Queue Length [ft/ln]	106.44	117.43	131.81	264.20	313.44	333.60	368.35	99.99	345.36	404.31

Movement, Approach, & Intersection Results

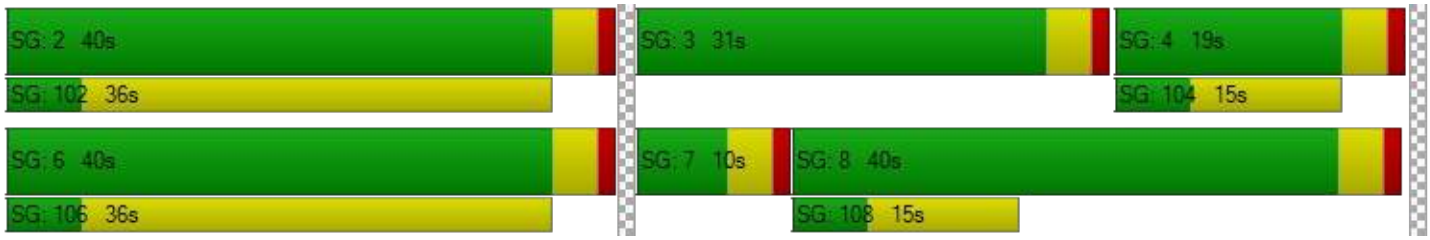
d_M, Delay for Movement [s/veh]	39.89	22.30	22.30	30.27	27.08	27.08	43.81	21.75	24.65	54.55	38.53	46.59
Movement LOS	D	C	C	C	C	C	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	29.14			28.06			24.99			39.86		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	30.74											
Intersection LOS	C											
Intersection V/C	0.685											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.157	2.285	3.473	3.491
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	800	800	333
d_b, Bicycle Delay [s]	16.20	16.20	16.20	31.25
l_b,int, Bicycle LOS Score for Intersection	2.013	2.393	2.569	2.277
Bicycle LOS	B	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Mountain Vista Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	16.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.485

Intersection Setup

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	330.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Base Volume Input [veh/h]	63	4	43	68	7	18	35	1808	29	88	1511	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	61	0	0	41	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	100	0	0	96	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	66	4	45	71	7	19	36	2041	30	92	1708	50
Peak Hour Factor	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	1	12	18	2	5	9	525	8	24	440	13
Total Analysis Volume [veh/h]	68	4	46	73	7	20	37	2102	31	95	1759	51
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	10	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	10	0	10	0	6	10	0	5	10	0
Amber [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	40	40	0	47	0	10	33	0	10	33	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	31	0	38	0	0	24	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No	No		No		No	No		No	No	
Maximum Recall		No	No		No		No	No		No	No	
Pedestrian Recall		No	No		No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	L	C	C	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	24	10	10	4	84	84	10	91	91
g / C, Green / Cycle	0.08	0.08	0.08	0.19	0.08	0.08	0.03	0.65	0.65	0.08	0.70	0.70
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.00	0.02	0.03	0.03	0.01	0.36	0.36	0.07	0.41	0.04
s, saturation flow rate [veh/h]	1434	1518	1594	2399	1434	1459	2621	4343	1579	1434	4343	1355
c, Capacity [veh/h]	109	116	122	449	108	110	74	2801	1019	115	3027	945
d1, Uniform Delay [s]	56.81	56.74	55.61	43.77	57.54	57.59	62.24	12.80	12.80	58.87	10.03	6.20
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.60	1.39	0.11	0.10	2.95	3.03	5.06	0.81	2.21	13.53	0.82	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.29	0.03	0.10	0.45	0.46	0.50	0.56	0.56	0.82	0.58	0.05
d, Delay for Lane Group [s/veh]	58.41	58.13	55.72	43.86	60.48	60.62	67.30	13.61	15.01	72.40	10.85	6.31
Lane Group LOS	E	E	E	D	E	E	E	B	B	E	B	A
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.11	1.10	0.13	0.63	1.64	1.71	0.66	8.29	9.45	3.52	8.16	0.45
50th-Percentile Queue Length [ft/ln]	27.75	27.62	3.15	15.67	40.88	42.66	16.41	207.36	236.15	87.95	203.88	11.37
95th-Percentile Queue Length [veh/ln]	2.00	1.99	0.23	1.13	2.94	3.07	1.18	13.02	14.49	6.33	12.84	0.82
95th-Percentile Queue Length [ft/ln]	49.95	49.72	5.67	28.21	73.58	76.80	29.54	325.44	362.16	158.32	320.97	20.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	58.27	55.72	43.86	60.53	60.62	60.62	67.30	13.97	15.01	72.40	10.85	6.31
Movement LOS	E	E	D	E	E	E	E	B	B	E	B	A
d_A, Approach Delay [s/veh]	52.57			60.55			14.89			13.80		
Approach LOS	D			E			B			B		
d_I, Intersection Delay [s/veh]	16.51											
Intersection LOS	B											
Intersection V/C	0.485											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.648	2.197	3.377	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	662	446	446
d_b, Bicycle Delay [s]	33.98	29.11	39.23	39.23
l_b,int, Bicycle LOS Score for Intersection	1.657	1.725	2.455	2.607
Bicycle LOS	A	A	B	B

Sequence

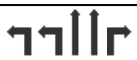
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Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Escondido Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	47.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.848

Intersection Setup

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	661.02
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	382.98
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Base Volume Input [veh/h]	473	221	302	49	37	224	45	1215	597	408	984	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	61	0	0	41	0
Site-Generated Trips [veh/h]	32	0	0	0	0	0	0	67	33	0	64	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	524	230	314	51	38	233	47	1392	654	424	1128	7
Peak Hour Factor	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710	0.9710
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	135	59	81	13	10	60	12	358	168	109	290	2
Total Analysis Volume [veh/h]	540	237	323	53	39	240	48	1434	674	437	1162	7
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	0	3	8	8	7	4	0
Auxiliary Signal Groups			6,7						1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	10	5	10	0
Maximum Green [s]	5	10	10	10	10	0	9	10	10	6	10	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	27	61	61	10	44	0	13	30	30	19	36	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	5	0	5	0
Pedestrian Clearance [s]	0	27	27	0	24	0	0	21	21	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No		No	No	No	No	No	
Maximum Recall	No	No	No	No	No		No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	42	67	5	24	5	36	63	21	53	53
g / C, Green / Cycle	0.19	0.35	0.56	0.04	0.20	0.04	0.30	0.52	0.18	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.19	0.13	0.21	0.03	0.18	0.03	0.30	0.45	0.15	0.34	0.00
s, saturation flow rate [veh/h]	2912	1772	1506	1593	1538	1593	4826	1506	2912	3373	1506
c, Capacity [veh/h]	558	620	844	66	307	60	1439	788	516	1475	659
d1, Uniform Delay [s]	48.13	29.25	14.75	57.05	46.93	57.27	42.05	24.70	47.81	28.97	19.08
k, delay calibration	0.11	0.11	0.11	0.11	0.12	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.55	0.39	0.29	20.08	11.14	20.64	22.95	11.50	3.96	4.33	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.97	0.38	0.38	0.81	0.91	0.80	1.00	0.86	0.85	0.79	0.01
d, Delay for Lane Group [s/veh]	59.68	29.63	15.03	77.13	58.08	77.91	65.00	36.20	51.76	33.30	19.11
Lane Group LOS	E	C	B	E	E	E	E	D	D	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	8.87	5.20	4.90	1.96	9.06	1.79	17.01	18.40	6.59	14.94	0.12
50th-Percentile Queue Length [ft/ln]	221.77	130.11	122.47	49.01	226.52	44.75	425.35	460.11	164.75	373.62	2.92
95th-Percentile Queue Length [veh/ln]	13.76	8.95	8.53	3.53	14.00	3.22	23.78	25.44	10.80	21.29	0.21
95th-Percentile Queue Length [ft/ln]	343.88	223.64	213.21	88.22	349.93	80.56	594.47	636.00	270.01	532.13	5.26

Movement, Approach, & Intersection Results

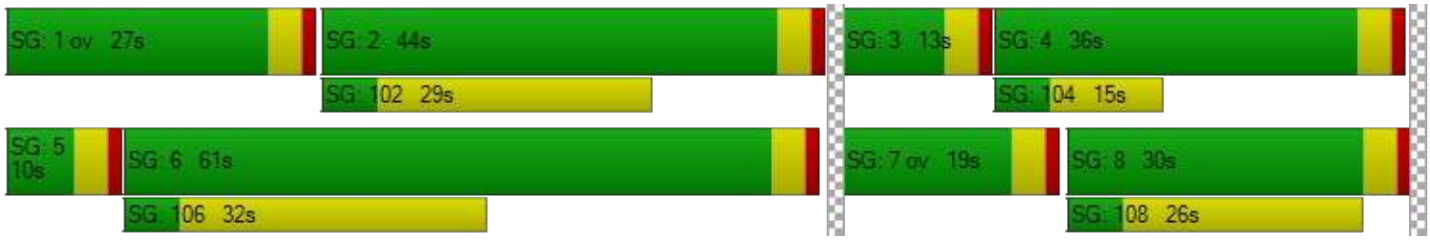
d_M, Delay for Movement [s/veh]	59.68	29.63	15.03	77.13	58.08	58.08	77.91	65.00	36.20	51.76	33.30	19.11
Movement LOS	E	C	B	E	E	E	E	E	D	D	C	B
d_A, Approach Delay [s/veh]	40.10			61.12			56.29			38.26		
Approach LOS	D			E			E			D		
d_I, Intersection Delay [s/veh]	47.59											
Intersection LOS	D											
Intersection V/C	0.848											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.834	2.158	3.240	3.157
Crosswalk LOS	C	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	950	667	433	533
d_b, Bicycle Delay [s]	16.54	26.67	36.82	32.27
l_b,int, Bicycle LOS Score for Intersection	3.375	2.107	2.745	2.885
Bicycle LOS	C	B	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Topaz Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	20.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.616

Intersection Setup

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	1279.32	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Base Volume Input [veh/h]	162	33	59	53	34	46	51	1257	202	55	1191	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	61	0	0	41	0
Site-Generated Trips [veh/h]	16	0	0	0	0	16	17	33	17	0	32	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	184	34	61	55	35	64	70	1401	227	57	1312	59
Peak Hour Factor	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	9	16	14	9	17	18	364	59	15	341	15
Total Analysis Volume [veh/h]	191	35	63	57	36	66	73	1455	236	59	1362	61
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	6	10	0	34	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	33	0	38	19	0	38	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	22	22	22	5	51	51	4	50	50
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.06	0.57	0.57	0.05	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.15	0.06	0.04	0.06	0.05	0.43	0.16	0.04	0.40	0.41
s, saturation flow rate [veh/h]	1292	1591	1297	1590	1593	3373	1506	1593	1772	1745
c, Capacity [veh/h]	299	395	302	395	94	1926	860	76	991	977
d1, Uniform Delay [s]	36.45	27.11	32.31	27.18	41.77	14.56	9.82	42.40	14.64	14.68
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.28	0.32	0.30	0.34	12.92	2.81	0.79	15.79	4.54	4.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.25	0.19	0.26	0.78	0.76	0.27	0.78	0.72	0.72
d, Delay for Lane Group [s/veh]	38.72	27.43	32.61	27.52	54.69	17.37	10.61	58.20	19.18	19.35
Lane Group LOS	D	C	C	C	D	B	B	E	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.19	1.70	1.09	1.77	1.92	10.79	2.38	1.61	11.01	10.95
50th-Percentile Queue Length [ft/ln]	104.82	42.38	27.17	44.24	47.92	269.80	59.62	40.37	275.29	273.72
95th-Percentile Queue Length [veh/ln]	7.55	3.05	1.96	3.19	3.45	16.18	4.29	2.91	16.45	16.38
95th-Percentile Queue Length [ft/ln]	188.68	76.28	48.91	79.63	86.25	404.49	107.32	72.66	411.34	409.38

Movement, Approach, & Intersection Results

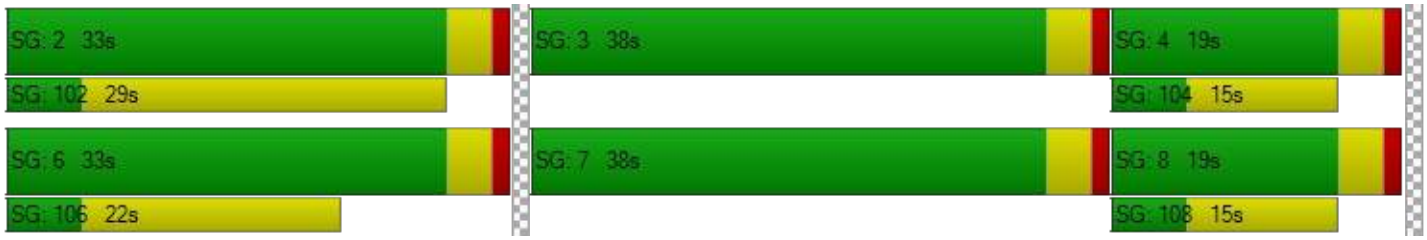
d_M, Delay for Movement [s/veh]	38.72	27.43	27.43	32.61	27.52	27.52	54.69	17.37	10.61	58.20	19.26	19.35
Movement LOS	D	C	C	C	C	C	D	B	B	E	B	B
d_A, Approach Delay [s/veh]	34.89			29.35			18.01			20.81		
Approach LOS	C			C			B			C		
d_I, Intersection Delay [s/veh]	20.94											
Intersection LOS	C											
Intersection V/C	0.616											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.143	2.048	3.338	2.979
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	644	333	333
d_b, Bicycle Delay [s]	20.67	20.67	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.036	1.822	3.015	2.782
Bicycle LOS	B	A	C	C

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 101: Keypointe Dr at South Fuel Entrance Dwy

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

Intersection Setup

Name	Keypointe Dr		Keypointe Dr		South Fuel Entrance Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Keypointe Dr		Keypointe Dr		South Fuel Entrance Dwy	
Base Volume Input [veh/h]	250	0	0	292	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0000	1.0000
In-Process Volume [veh/h]	15	0	0	23	0	0
Site-Generated Trips [veh/h]	203	85	12	300	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	101	89	0	197	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	579	174	12	824	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	152	46	3	217	0	0
Total Analysis Volume [veh/h]	609	183	13	867	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.02	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	9.38	0.00	0.00	0.00
Movement LOS	A	A	A	A		
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.55	0.27	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.14		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.07					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 102: Amargosa Rd at West Retail Dwy/West Fuel Dwy

Control Type:	Signalized	Delay (sec / veh):	21.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.619

Intersection Setup

Name	West Fuel Exit Dwy			West Retail Dwy			Amargosa Rd			Amargosa Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	West Fuel Exit Dwy			West Retail Dwy			Amargosa Rd			Amargosa Rd		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	360	0	0	421	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	35	0	0	55	0
Site-Generated Trips [veh/h]	111	0	6	21	0	148	139	39	25	0	53	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	111	0	0	0	0	69	63	16	22	0	17	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	222	0	6	21	0	217	202	464	47	0	563	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	0	2	6	0	57	53	122	12	0	148	0
Total Analysis Volume [veh/h]	234	0	6	22	0	228	213	488	49	0	593	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	0	10	0
Maximum Green [s]	0	10	0	0	19	0	18	54	0	0	32	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	20	0	0	18	0	64	22	0	0	22	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	12	12	12	12	25	25	25	25	25
g / C, Green / Cycle	0.19	0.19	0.19	0.20	0.20	0.41	0.41	0.41	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.16	0.00	0.00	0.01	0.17	0.29	0.17	0.17	0.19	0.19
s, saturation flow rate [veh/h]	1434	1506	1280	1518	1355	742	1594	1544	1594	1594
c, Capacity [veh/h]	277	291	247	298	266	292	655	634	655	655
d1, Uniform Delay [s]	23.34	0.00	19.62	19.68	23.32	24.36	12.56	12.56	12.79	12.79
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.95	0.00	0.04	0.10	7.90	14.75	1.94	2.01	2.25	2.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.00	0.02	0.07	0.86	0.73	0.42	0.42	0.45	0.45
d, Delay for Lane Group [s/veh]	30.28	0.00	19.66	19.78	31.22	39.10	14.50	14.58	15.04	15.04
Lane Group LOS	C	A	B	B	C	D	B	B	B	B
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	3.49	0.00	0.07	0.24	3.47	4.13	2.63	2.56	2.93	2.93
50th-Percentile Queue Length [ft/ln]	87.26	0.00	1.66	6.09	86.67	103.33	65.75	64.08	73.28	73.28
95th-Percentile Queue Length [veh/ln]	6.28	0.00	0.12	0.44	6.24	7.44	4.73	4.61	5.28	5.28
95th-Percentile Queue Length [ft/ln]	157.06	0.00	2.99	10.96	156.01	185.99	118.36	115.35	131.91	131.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.28	15.14	19.66	19.78	25.50	31.22	39.10	14.54	14.58	0.00	15.04	15.04
Movement LOS	C	B	B	B	C	C	D	B	B		B	B
d_A, Approach Delay [s/veh]	30.02			30.21			21.52			15.04		
Approach LOS	C			C			C			B		
d_I, Intersection Delay [s/veh]	21.72											
Intersection LOS	C											
Intersection V/C	0.619											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	467	600	600
d_b, Bicycle Delay [s]	16.13	17.63	14.70	14.70
l_b,int, Bicycle LOS Score for Intersection	1.758	1.766	2.178	2.049
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 103: Amargosa Rd at East Retail Dwy/East Fuel Exit Dwy

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.083

Intersection Setup

Name	East Fuel Exit Dwy			East Retail Dwy			Amargosa Rd			Amargosa Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	East Fuel Exit Dwy			East Retail Dwy			Amargosa Rd			Amargosa Rd		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	360	0	0	421	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0400	1.0000	1.0000	1.0400	1.0400	1.0400	1.0400	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	35	0	0	55	0
Site-Generated Trips [veh/h]	0	0	6	0	0	41	39	27	0	0	12	20
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	17	16	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	6	0	0	58	55	436	0	0	505	20
Peak Hour Factor	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	2	0	0	15	14	115	0	0	133	5
Total Analysis Volume [veh/h]	0	0	6	0	0	61	58	459	0	0	532	21
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.08	0.06	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	9.69	0.00	0.00	10.36	8.77	0.00	0.00	0.00	0.00	0.00
Movement LOS			A			B	A	A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.00	0.00	0.27	0.18	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.59	0.00	0.00	6.79	4.55	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.69			10.36			0.98			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	1.05											
Intersection LOS	B											

APPENDIX D-4

INTERSECTION ANALYSIS WORKSHEETS – HORIZON YEAR 2045

Hesperia Big Box Retail and Fuel Station

Vistro File: K:\...\Hesperia Big Box Retail and Fuel Station_AM.vistro

Scenario 4 HY CUM AM

Report File: K:\...\4. HY AM.pdf

12/16/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Keypointe Dr at Amargosa Rd	Two-way stop	HCM 7th Edition	NB Left	0.025	23.5	C
2	US-395 at Phelan Rd/Main St	Signalized	HCM 7th Edition	SB Left	0.983	122.2	F
3	Mesa Linda St at Main St	Signalized	HCM 7th Edition	EB Left	0.330	13.3	B
4	Cataba Rd at Main St	Signalized	HCM 7th Edition	EB Left	0.394	20.0	B
5	Keypointe Dr at Main St	Signalized	HCM 7th Edition	EB Left	0.491	17.0	B
6	I-15 SB Ramps at Main St	Signalized	HCM 7th Edition	SB Right	0.532	12.4	B
7	I-15 NB Ramps at Main St	Signalized	HCM 7th Edition	NB Right	0.512	9.5	A
8	Mariposa Rd at Main St	Signalized	HCM 7th Edition	EB Left	0.601	25.4	C
9	Mountain Vista Ave at Main St	Signalized	HCM 7th Edition	WB Left	0.578	14.1	B
10	Escondido Ave at Main St	Signalized	HCM 7th Edition	SB Left	0.708	29.8	C
11	Topaz Ave at Main St	Signalized	HCM 7th Edition	EB Left	0.703	31.9	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Keypointe Dr at Amargosa Rd

Control Type:	Two-way stop	Delay (sec / veh):	23.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.025

Intersection Setup

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	1	0	1
Exit Pocket Length [ft]	0.00	100.00	0.00	49.21	0.00	477.13
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Base Volume Input [veh/h]	5	177	120	7	358	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	177	120	7	358	60
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	47	32	2	94	16
Total Analysis Volume [veh/h]	5	186	126	7	377	63
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.19	0.00	0.00	0.26	0.00
d_M, Delay for Movement [s/veh]	23.46	9.51	0.00	0.00	8.12	0.00
Movement LOS	C	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.69	0.00	0.00	0.88	0.44
95th-Percentile Queue Length [ft/ln]	1.92	17.37	0.00	0.00	21.88	10.94
d_A, Approach Delay [s/veh]	9.88		0.00		6.96	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.48					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 2: US-395 at Phelan Rd/Main St

Control Type:	Signalized	Delay (sec / veh):	122.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.983

Intersection Setup

Name	US-395			US-395			Phelan Rd			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395			US-395			Phelan Rd			Main St		
Base Volume Input [veh/h]	65	1108	30	261	1686	29	71	937	282	100	637	622
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	1108	30	261	1686	29	71	937	282	100	637	622
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	292	8	69	444	8	19	247	74	26	168	164
Total Analysis Volume [veh/h]	68	1166	32	275	1775	31	75	986	297	105	671	655
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	16	28	0	16	28	0	15	14	0	16	15	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	31	0	16	37	0	10	33	0	10	33	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	27	27	12	34	34	5	29	29	6	30	30
g / C, Green / Cycle	0.05	0.30	0.30	0.13	0.38	0.38	0.06	0.32	0.32	0.07	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.04	0.32	0.32	0.16	0.48	0.49	0.04	0.35	0.36	0.06	0.36	0.41
s, saturation flow rate [veh/h]	1687	1870	1852	1687	1870	1859	1687	1870	1724	1687	1870	1589
c, Capacity [veh/h]	89	561	556	225	712	708	96	603	556	112	620	527
d1, Uniform Delay [s]	42.09	31.50	31.50	39.00	27.87	27.87	41.86	30.50	30.50	41.80	30.07	30.07
k, delay calibration	0.11	0.47	0.47	0.35	0.50	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.84	57.85	58.34	125.08	131.65	134.97	12.51	67.52	73.76	25.98	60.24	124.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	1.07	1.07	1.22	1.27	1.28	0.78	1.10	1.11	0.93	1.08	1.24
d, Delay for Lane Group [s/veh]	54.93	89.35	89.84	164.08	159.52	162.84	54.37	98.02	104.26	67.78	90.32	154.46
Lane Group LOS	D	F	F	F	F	F	D	F	F	E	F	F
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.79	20.73	20.61	12.69	40.50	40.91	1.96	23.80	22.91	3.10	23.20	29.11
50th-Percentile Queue Length [ft/ln]	44.80	518.19	515.23	317.28	1012.42	1022.63	49.00	595.03	572.69	77.53	579.89	727.76
95th-Percentile Queue Length [veh/ln]	3.23	29.46	29.33	20.12	59.20	59.92	3.53	33.83	32.94	5.58	32.74	43.21
95th-Percentile Queue Length [ft/ln]	80.64	736.55	733.24	502.94	1479.99	1498.08	88.21	845.80	823.61	139.56	818.45	1080.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.93	89.58	89.84	164.08	161.15	162.84	54.37	100.06	104.26	67.78	90.32	154.46
Movement LOS	D	F	F	F	F	F	D	F	F	E	F	F
d_A, Approach Delay [s/veh]	87.73			161.56			98.46			118.02		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	122.21											
Intersection LOS	F											
Intersection V/C	0.983											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	733	644	644
d_b, Bicycle Delay [s]	22.05	18.05	20.67	20.67
l_b,int, Bicycle LOS Score for Intersection	2.604	3.276	2.680	2.740
Bicycle LOS	B	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Mesa Linda St at Main St

Control Type:	Signalized	Delay (sec / veh):	13.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.330

Intersection Setup

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	460.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Base Volume Input [veh/h]	2	1	41	37	0	34	13	1010	22	116	1384	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1	41	37	0	34	13	1010	22	116	1384	18
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	11	10	0	9	3	266	6	31	364	5
Total Analysis Volume [veh/h]	2	1	43	39	0	36	14	1063	23	122	1457	19
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	29	0	0	20	0	10	16	0	9	15	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	14	0	10	14	0	29	33	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	7	8	8	1	50	50	8	57	57
g / C, Green / Cycle	0.08	0.08	0.09	0.09	0.02	0.56	0.56	0.09	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.00	0.03	0.02	0.02	0.01	0.20	0.20	0.07	0.27	0.27
s, saturation flow rate [veh/h]	1810	1589	1781	1589	1687	3560	1850	1687	3560	1858
c, Capacity [veh/h]	139	122	168	150	28	1991	1034	155	2259	1179
d1, Uniform Delay [s]	38.41	39.41	37.75	37.78	43.88	10.94	10.94	40.00	8.26	8.26
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	1.72	0.70	0.82	13.11	0.51	0.97	8.47	0.60	1.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.02	0.35	0.23	0.24	0.50	0.36	0.36	0.79	0.43	0.43
d, Delay for Lane Group [s/veh]	38.47	41.13	38.45	38.60	56.99	11.44	11.91	48.47	8.86	9.40
Lane Group LOS	D	D	D	D	E	B	B	D	A	A
Critical Lane Group	No	Yes	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.06	0.95	0.82	0.76	0.41	3.77	4.05	2.97	4.34	4.71
50th-Percentile Queue Length [ft/ln]	1.58	23.78	20.52	19.05	10.21	94.19	101.30	74.30	108.60	117.80
95th-Percentile Queue Length [veh/ln]	0.11	1.71	1.48	1.37	0.74	6.78	7.29	5.35	7.76	8.27
95th-Percentile Queue Length [ft/ln]	2.84	42.81	36.93	34.29	18.38	169.55	182.34	133.74	194.05	206.80

Movement, Approach, & Intersection Results

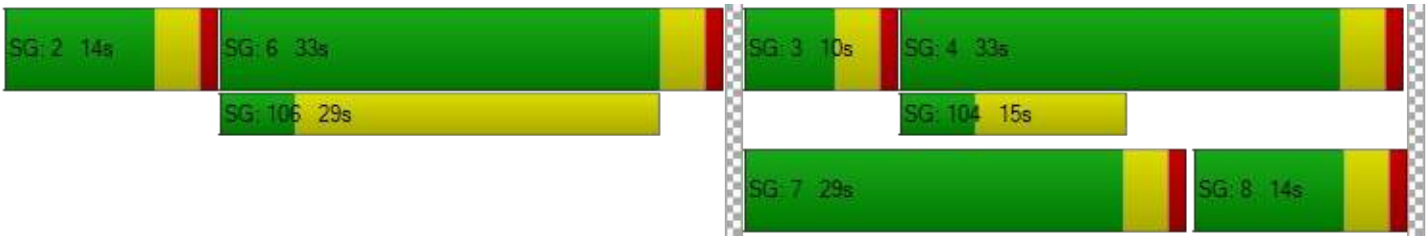
d_M, Delay for Movement [s/veh]	38.47	38.47	41.13	38.45	38.45	38.60	56.99	11.60	11.91	48.47	9.04	9.40
Movement LOS	D	D	D	D	D	D	E	B	B	D	A	A
d_A, Approach Delay [s/veh]	40.96			38.53			12.18			12.05		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	13.28											
Intersection LOS	B											
Intersection V/C	0.330											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersectio	0.000	1.977	0.000	2.977
Crosswalk LOS	F	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	222	222	644
d_b, Bicycle Delay [s]	20.67	35.56	35.56	20.67
l_b,int, Bicycle LOS Score for Intersection	1.636	1.683	2.165	2.439
Bicycle LOS	A	A	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Cataba Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	20.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.394

Intersection Setup

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	260.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Base Volume Input [veh/h]	62	14	113	42	9	54	78	806	90	160	1154	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	62	14	113	42	9	54	78	806	90	160	1154	48
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	4	30	11	2	14	21	212	24	42	304	13
Total Analysis Volume [veh/h]	65	15	119	44	9	57	82	848	95	168	1215	51
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	23	0	0	23	0	0	10	0	5	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	36	0	0	36	0	12	26	0	12	26	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	11	11	10	10	10	7	65	65	8	67	67
g / C, Green / Cycle	0.10	0.10	0.10	0.09	0.09	0.09	0.06	0.60	0.60	0.08	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.07	0.03	0.00	0.04	0.05	0.17	0.06	0.05	0.23	0.23
s, saturation flow rate [veh/h]	1687	1812	1589	1687	1870	1589	1687	5094	1589	3095	3560	1832
c, Capacity [veh/h]	162	174	153	149	166	141	105	3029	945	233	2164	1113
d1, Uniform Delay [s]	46.00	45.99	48.58	46.91	45.91	47.39	50.84	10.84	9.61	49.74	11.06	11.06
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.75	0.69	8.30	1.08	0.13	1.87	11.85	0.23	0.21	4.19	0.52	1.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.24	0.24	0.78	0.29	0.05	0.40	0.78	0.28	0.10	0.72	0.39	0.39
d, Delay for Lane Group [s/veh]	46.75	46.68	56.88	48.00	46.05	49.26	62.69	11.07	9.82	53.93	11.58	12.07
Lane Group LOS	D	D	E	D	D	D	E	B	A	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.01	1.08	3.53	1.17	0.23	1.55	2.57	3.28	1.01	2.39	5.12	5.42
50th-Percentile Queue Length [ft/ln]	25.34	26.99	88.37	29.33	5.80	38.74	64.16	82.00	25.34	59.73	127.94	135.43
95th-Percentile Queue Length [veh/ln]	1.82	1.94	6.36	2.11	0.42	2.79	4.62	5.90	1.82	4.30	8.83	9.23
95th-Percentile Queue Length [ft/ln]	45.61	48.58	159.07	52.80	10.44	69.74	115.49	147.59	45.62	107.51	220.69	230.86

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.75	46.68	56.88	48.00	46.05	49.26	62.69	11.07	9.82	53.93	11.73	12.07
Movement LOS	D	D	E	D	D	D	E	B	A	D	B	B
d_A, Approach Delay [s/veh]	52.79			48.49			15.08			16.69		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	19.95											
Intersection LOS	B											
Intersection V/C	0.394											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	46.37	46.37	46.37	46.37
l_p,int, Pedestrian LOS Score for Intersectio	2.403	2.361	3.024	3.035
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	582	582	400	400
d_b, Bicycle Delay [s]	27.65	27.65	35.20	35.20
l_b,int, Bicycle LOS Score for Intersection	1.888	1.741	2.123	2.348
Bicycle LOS	A	A	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Keypointe Dr at Main St

Control Type:	Signalized	Delay (sec / veh):	17.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.491

Intersection Setup

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	741.32	180.00	100.00	366.47	192.10	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Base Volume Input [veh/h]	10	10	58	247	38	33	21	1025	9	133	1235	154
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	58	247	38	33	21	1025	9	133	1235	154
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	15	65	10	9	6	270	2	35	325	41
Total Analysis Volume [veh/h]	11	11	61	260	40	35	22	1079	9	140	1300	162
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	6	10	0	5	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	36	0	0	36	0	10	26	0	28	44	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	22	22	22	22	2	46	46	9	54	54
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25	0.02	0.51	0.51	0.10	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.01	0.01	0.04	0.20	0.04	0.01	0.21	0.01	0.08	0.27	0.27
s, saturation flow rate [veh/h]	1324	1870	1589	1328	1728	1687	5094	1589	1687	3560	1766
c, Capacity [veh/h]	331	465	395	372	430	40	2621	818	175	2116	1050
d1, Uniform Delay [s]	29.78	25.55	26.41	34.08	26.55	43.47	13.46	10.67	39.44	10.21	10.21
k, delay calibration	0.11	0.11	0.11	0.12	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	0.02	0.18	2.71	0.19	11.43	0.48	0.02	8.26	0.73	1.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.03	0.02	0.15	0.70	0.17	0.55	0.41	0.01	0.80	0.46	0.46
d, Delay for Lane Group [s/veh]	29.82	25.57	26.59	36.78	26.74	54.90	13.94	10.69	47.71	10.93	11.67
Lane Group LOS	C	C	C	D	C	D	B	B	D	B	B
Critical Lane Group	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.20	0.18	1.03	5.66	1.27	0.61	4.34	0.09	3.38	5.10	5.27
50th-Percentile Queue Length [ft/ln]	4.91	4.46	25.71	141.40	31.74	15.16	108.39	2.23	84.56	127.40	131.83
95th-Percentile Queue Length [veh/ln]	0.35	0.32	1.85	9.56	2.29	1.09	7.75	0.16	6.09	8.80	9.04
95th-Percentile Queue Length [ft/ln]	8.84	8.04	46.28	238.91	57.14	27.28	193.76	4.02	152.21	219.95	225.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.82	25.57	26.59	36.78	26.74	26.74	54.90	13.94	10.69	47.71	11.12	11.67
Movement LOS	C	C	C	D	C	C	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	26.88			34.53			14.72			14.37		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	16.99											
Intersection LOS	B											
Intersection V/C	0.491											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.354	2.114	3.042	3.383
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	711	489	889
d_b, Bicycle Delay [s]	18.69	18.69	25.69	13.89
l_b,int, Bicycle LOS Score for Intersection	1.697	2.112	2.170	2.441
Bicycle LOS	A	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: I-15 SB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	12.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.532

Intersection Setup

Name							Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	639.00	100.00	100.00	200.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name							Main St			Main St		
Base Volume Input [veh/h]	0	0	0	252	0	389	0	1123	104	0	1329	527
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	252	0	389	0	1123	104	0	1329	527
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	66	0	102	0	296	27	0	350	139
Total Analysis Volume [veh/h]	0	0	0	265	0	409	0	1182	109	0	1399	555
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	7	0	4	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	5	0	5	0	10	0	0	10	0
Maximum Green [s]	0	0	0	32	0	32	0	20	0	0	20	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	69	0	94	0	21	0	0	21	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	10	0	0	0	3	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		90	90	90	90
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		26	26	56	56
g / C, Green / Cycle		0.29	0.29	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate		0.09	0.26	0.23	0.27
s, saturation flow rate [veh/h]		3095	1589	5094	5094
c, Capacity [veh/h]		904	465	3152	3152
d1, Uniform Delay [s]		24.65	30.35	8.51	9.01
k, delay calibration		0.11	0.11	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.18	5.58	0.34	0.45
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.29	0.88	0.37	0.44
d, Delay for Lane Group [s/veh]		24.83	35.93	8.86	9.47
Lane Group LOS		C	D	A	A
Critical Lane Group		No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]		2.17	8.89	3.50	4.39
50th-Percentile Queue Length [ft/ln]		54.31	222.26	87.38	109.69
95th-Percentile Queue Length [veh/ln]		3.91	13.78	6.29	7.82
95th-Percentile Queue Length [ft/ln]		97.75	344.51	157.29	195.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	24.83	0.00	35.93	0.00	8.86	0.00	0.00	9.47	0.00
Movement LOS				C		D		A			A	
d_A, Approach Delay [s/veh]	0.00			31.56			8.14			6.88		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	12.45											
Intersection LOS	B											
Intersection V/C	0.532											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	1444	378	378
d_b, Bicycle Delay [s]	45.00	3.47	29.61	29.61
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.210	2.329
Bicycle LOS	D	A	B	B

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: I-15 NB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.512

Intersection Setup

Name	I-15 NB Ramps						Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	639.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	307.42
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	I-15 NB Ramps						Main St			Main St		
Base Volume Input [veh/h]	127	2	404	0	0	0	0	1090	301	0	1600	571
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	127	2	404	0	0	0	0	1090	301	0	1600	571
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	1	106	0	0	0	0	287	79	0	421	150
Total Analysis Volume [veh/h]	134	2	425	0	0	0	0	1147	317	0	1684	601
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	26	0	0	26	0	0	26	0	0	26	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	31	0	0	94	0	0	59	0	0	59	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No						No			No	
Maximum Recall		No						No			No	
Pedestrian Recall		No						No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R		C	C	R
C, Cycle Length [s]	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	15	15	15		67	67	67
g / C, Green / Cycle	0.17	0.17	0.17		0.74	0.74	0.74
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.13		0.23	0.33	0.38
s, saturation flow rate [veh/h]	1687	1592	1589		5094	5094	1589
c, Capacity [veh/h]	283	267	267		3786	3786	1181
d1, Uniform Delay [s]	33.84	35.98	35.98		3.83	4.43	4.77
k, delay calibration	0.11	0.11	0.11		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	1.22	5.46	5.47		0.21	0.38	1.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.80	0.80		0.30	0.44	0.51
d, Delay for Lane Group [s/veh]	35.07	41.44	41.45		4.04	4.82	6.34
Lane Group LOS	D	D	D		A	A	A
Critical Lane Group	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.71	4.83	4.83		1.80	3.08	3.91
50th-Percentile Queue Length [ft/ln]	67.71	120.83	120.68		45.11	76.92	97.67
95th-Percentile Queue Length [veh/ln]	4.87	8.44	8.43		3.25	5.54	7.03
95th-Percentile Queue Length [ft/ln]	121.87	210.97	210.76		81.20	138.46	175.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.07	41.44	41.45	0.00	0.00	0.00	0.00	4.04	0.00	0.00	4.82	6.34
Movement LOS	D	D	D					A			A	A
d_A, Approach Delay [s/veh]	39.92			0.00			3.20			5.22		
Approach LOS	D			A			A			A		
d_I, Intersection Delay [s/veh]	9.51											
Intersection LOS	A											
Intersection V/C	0.512											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.269	2.013	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	0	1222	1222
d_b, Bicycle Delay [s]	22.05	45.00	6.81	6.81
l_b,int, Bicycle LOS Score for Intersection	2.485	4.132	2.190	2.816
Bicycle LOS	B	D	B	C

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Mariposa Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	25.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.601

Intersection Setup

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	307.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Base Volume Input [veh/h]	73	48	65	122	170	177	140	1192	119	224	1878	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	48	65	122	170	177	140	1192	119	224	1878	98
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	13	17	32	45	47	37	314	31	59	494	26
Total Analysis Volume [veh/h]	77	51	68	128	179	186	147	1255	125	236	1977	103
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	36	0	5	36	0	5	16	0	5	16	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	94	40	0	94	40	0	10	19	0	31	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	0	0	31	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29	29	29	10	35	35	15	40	40
g / C, Green / Cycle	0.32	0.32	0.32	0.32	0.11	0.39	0.39	0.16	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.08	0.07	0.10	0.21	0.09	0.20	0.20	0.14	0.30	0.30
s, saturation flow rate [veh/h]	1017	1699	1273	1716	1687	5094	1761	1687	5094	1810
c, Capacity [veh/h]	178	537	376	543	179	1971	681	276	2264	804
d1, Uniform Delay [s]	39.75	22.62	29.44	26.72	39.40	21.18	21.19	36.60	19.88	19.89
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.65	0.21	0.53	1.50	9.01	0.99	2.84	7.47	1.65	4.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.22	0.34	0.67	0.82	0.52	0.52	0.86	0.68	0.68
d, Delay for Lane Group [s/veh]	41.40	22.83	29.97	28.22	48.41	22.16	24.03	44.07	21.53	24.47
Lane Group LOS	D	C	C	C	D	C	C	D	C	C
Critical Lane Group	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.72	1.85	2.37	6.81	3.58	5.51	6.08	5.52	8.41	9.63
50th-Percentile Queue Length [ft/ln]	43.06	46.19	59.32	170.22	89.57	137.64	151.97	137.98	210.21	240.74
95th-Percentile Queue Length [veh/ln]	3.10	3.33	4.27	11.09	6.45	9.35	10.12	9.37	13.16	14.72
95th-Percentile Queue Length [ft/ln]	77.51	83.14	106.77	277.21	161.22	233.84	253.06	234.30	329.09	367.97

Movement, Approach, & Intersection Results

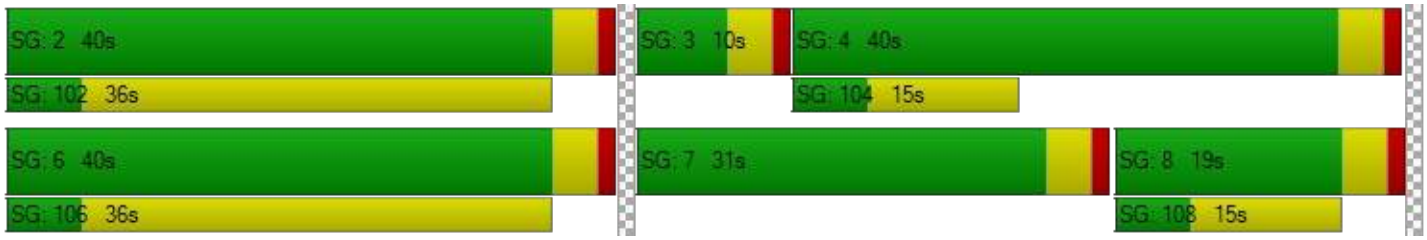
d_M, Delay for Movement [s/veh]	41.40	22.83	22.83	29.97	28.22	28.22	48.41	22.51	24.03	44.07	22.19	24.47
Movement LOS	D	C	C	C	C	C	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	30.13			28.68			25.12			24.52		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	25.42											
Intersection LOS	C											
Intersection V/C	0.601											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.181	2.200	3.368	3.441
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	800	333	800
d_b, Bicycle Delay [s]	16.20	16.20	31.25	16.20
l_b,int, Bicycle LOS Score for Intersection	1.883	2.373	2.189	2.515
Bicycle LOS	A	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Mountain Vista Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	14.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.578

Intersection Setup

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	330.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Base Volume Input [veh/h]	14	0	19	106	3	33	27	1345	8	61	2224	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	0	19	106	3	33	27	1345	8	61	2224	99
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	5	28	1	9	7	354	2	16	585	26
Total Analysis Volume [veh/h]	15	0	20	112	3	35	28	1416	8	64	2341	104
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	10	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	10	0	10	0	6	10	0	5	10	0
Amber [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	40	40	0	47	0	10	33	0	10	33	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	31	0	38	0	0	24	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No	No		No		No	No		No	No	
Maximum Recall		No	No		No		No	No		No	No	
Pedestrian Recall		No	No		No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	L	C	C	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	7	7	18	10	10	3	90	90	7	94	94
g / C, Green / Cycle	0.06	0.06	0.06	0.14	0.08	0.08	0.02	0.69	0.69	0.05	0.72	0.72
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.01	0.05	0.05	0.01	0.23	0.23	0.04	0.51	0.07
s, saturation flow rate [veh/h]	1518	1603	1683	2532	1518	1521	2785	4584	1677	1518	4584	1431
c, Capacity [veh/h]	84	89	94	352	117	117	68	3170	1159	80	3299	1030
d1, Uniform Delay [s]	58.26	58.24	0.00	48.56	58.20	58.28	62.48	8.01	8.01	60.89	10.43	5.51
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.45	0.40	0.00	0.07	5.53	5.88	3.90	0.28	0.76	16.38	1.32	0.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.09	0.08	0.00	0.06	0.63	0.65	0.41	0.33	0.33	0.80	0.71	0.10
d, Delay for Lane Group [s/veh]	58.71	58.64	0.00	48.62	63.74	64.16	66.39	8.29	8.77	77.27	11.75	5.70
Lane Group LOS	E	E	A	D	E	E	E	A	A	E	B	A
Critical Lane Group	No	No	No	Yes	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.25	0.25	0.00	0.29	2.55	2.63	0.49	3.79	4.31	2.46	11.92	0.87
50th-Percentile Queue Length [ft/ln]	6.15	6.13	0.00	7.19	63.75	65.67	12.36	94.70	107.81	61.43	297.89	21.65
95th-Percentile Queue Length [veh/ln]	0.44	0.44	0.00	0.52	4.59	4.73	0.89	6.82	7.72	4.42	17.58	1.56
95th-Percentile Queue Length [ft/ln]	11.06	11.03	0.00	12.94	114.74	118.20	22.25	170.46	192.96	110.57	439.42	38.96

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	58.67	29.32	48.62	63.88	64.16	64.16	66.39	8.41	8.77	77.27	11.75	5.70
Movement LOS	E	C	D	E	E	E	E	A	A	E	B	A
d_A, Approach Delay [s/veh]	52.93			63.95			9.53			13.17		
Approach LOS	D			E			A			B		
d_I, Intersection Delay [s/veh]	14.07											
Intersection LOS	B											
Intersection V/C	0.578											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.628	2.219	3.360	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	662	446	446
d_b, Bicycle Delay [s]	33.98	29.11	39.23	39.23
l_b,int, Bicycle LOS Score for Intersection	1.588	1.807	2.159	2.940
Bicycle LOS	A	A	B	C

Sequence

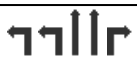
Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Escondido Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	29.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.708

Intersection Setup

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	661.02
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	3
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	160.47
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Base Volume Input [veh/h]	693	15	338	3	2	14	12	996	447	331	1535	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	693	15	338	3	2	14	12	996	447	331	1535	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	182	4	89	1	1	4	3	262	118	87	404	2
Total Analysis Volume [veh/h]	729	16	356	3	2	15	13	1048	471	348	1616	8
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	0	3	8	8	7	4	0
Auxiliary Signal Groups			6,7						1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	10	5	10	0
Maximum Green [s]	5	10	10	6	10	0	6	10	10	6	10	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	47	70	70	10	33	0	10	30	30	10	30	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	5	0	5	0
Pedestrian Clearance [s]	0	27	27	0	24	0	0	21	21	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No		No	No	No	No	No	
Maximum Recall	No	No	No	No	No		No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	32	36	61	0	4	2	46	83	21	65	65
g / C, Green / Cycle	0.27	0.30	0.51	0.00	0.04	0.01	0.39	0.69	0.17	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.24	0.01	0.22	0.00	0.01	0.01	0.21	0.30	0.11	0.45	0.01
s, saturation flow rate [veh/h]	3095	1870	1589	1687	1618	1687	5094	1589	3095	3560	1589
c, Capacity [veh/h]	837	567	812	7	60	25	1962	1095	539	1939	866
d1, Uniform Delay [s]	41.78	29.39	18.51	59.61	56.25	58.69	28.56	8.25	46.10	22.79	12.51
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.34	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.99	0.02	0.37	36.57	2.58	15.79	1.05	0.83	1.30	4.39	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.03	0.44	0.43	0.29	0.52	0.53	0.43	0.65	0.83	0.01
d, Delay for Lane Group [s/veh]	44.76	29.41	18.89	96.18	58.83	74.48	29.60	9.08	47.40	27.18	12.53
Lane Group LOS	D	C	B	F	E	E	C	A	D	C	B
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	10.57	0.33	6.24	0.16	0.54	0.50	7.94	5.26	4.93	19.35	0.10
50th-Percentile Queue Length [ft/ln]	264.20	8.29	156.06	4.05	13.62	12.55	198.38	131.54	123.15	483.77	2.59
95th-Percentile Queue Length [veh/ln]	15.90	0.60	10.34	0.29	0.98	0.90	12.55	9.02	8.57	26.57	0.19
95th-Percentile Queue Length [ft/ln]	397.48	14.92	258.50	7.30	24.52	22.59	313.87	225.59	214.15	664.13	4.65

Movement, Approach, & Intersection Results

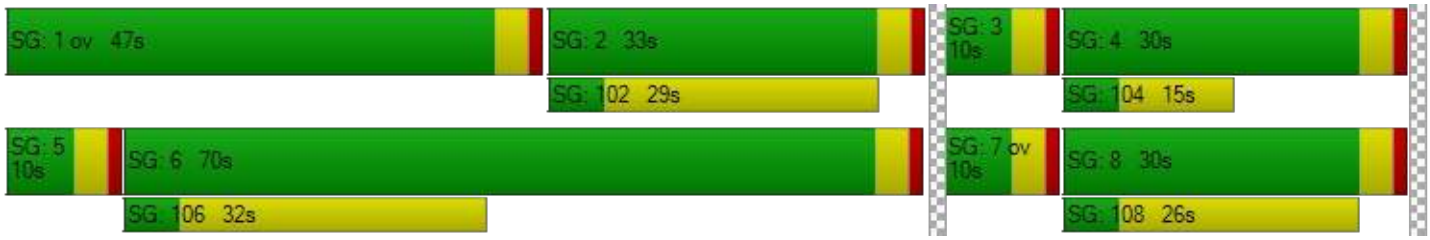
d_M, Delay for Movement [s/veh]	44.76	29.41	18.89	96.18	58.83	58.83	74.48	29.60	9.08	47.40	27.18	12.53
Movement LOS	D	C	B	F	E	E	E	C	A	D	C	B
d_A, Approach Delay [s/veh]	36.17			64.43			23.67			30.69		
Approach LOS	D			E			C			C		
d_I, Intersection Delay [s/veh]	29.82											
Intersection LOS	C											
Intersection V/C	0.708											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.780	1.974	3.215	3.311
Crosswalk LOS	C	A	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1100	483	433	433
d_b, Bicycle Delay [s]	12.15	34.50	36.82	36.82
l_b,int, Bicycle LOS Score for Intersection	3.376	1.593	2.402	3.187
Bicycle LOS	C	A	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



Intersection Level Of Service Report
Intersection 11: Topaz Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	31.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.703

Intersection Setup

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	1279.32	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Base Volume Input [veh/h]	207	73	54	123	81	124	64	1134	99	35	1529	126
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	207	73	54	123	81	124	64	1134	99	35	1529	126
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	19	14	32	21	33	17	298	26	9	402	33
Total Analysis Volume [veh/h]	218	77	57	129	85	131	67	1194	104	37	1609	133
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	6	10	0	6	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	33	0	10	47	0	10	47	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29	29	29	5	46	46	3	45	45
g / C, Green / Cycle	0.32	0.32	0.32	0.32	0.05	0.51	0.51	0.03	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.19	0.08	0.10	0.13	0.04	0.34	0.07	0.02	0.47	0.48
s, saturation flow rate [veh/h]	1165	1739	1255	1689	1687	3560	1589	1687	1870	1821
c, Capacity [veh/h]	310	558	382	542	85	1821	813	58	926	902
d1, Uniform Delay [s]	35.66	22.50	28.95	23.81	42.25	16.16	11.50	42.88	21.52	21.88
k, delay calibration	0.14	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.80	0.22	0.52	0.48	14.60	1.86	0.32	10.86	18.78	21.97
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.24	0.34	0.40	0.79	0.66	0.13	0.63	0.94	0.96
d, Delay for Lane Group [s/veh]	39.46	22.72	29.47	24.28	56.85	18.03	11.82	53.74	40.31	43.84
Lane Group LOS	D	C	C	C	E	B	B	D	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.93	2.08	2.37	3.56	1.80	8.86	1.11	0.98	20.84	21.64
50th-Percentile Queue Length [ft/ln]	123.24	51.95	59.22	88.96	45.02	221.44	27.81	24.51	521.11	541.03
95th-Percentile Queue Length [veh/ln]	8.57	3.74	4.26	6.41	3.24	13.74	2.00	1.76	28.33	29.27
95th-Percentile Queue Length [ft/ln]	214.27	93.52	106.59	160.13	81.04	343.46	50.06	44.12	708.30	731.76

Movement, Approach, & Intersection Results

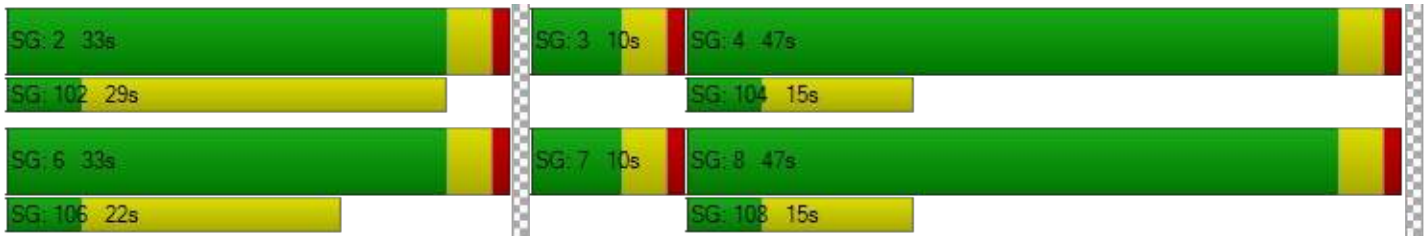
d_M, Delay for Movement [s/veh]	39.46	22.72	22.72	29.47	24.28	24.28	56.85	18.03	11.82	53.74	41.92	43.84
Movement LOS	D	C	C	C	C	C	E	B	B	D	D	D
d_A, Approach Delay [s/veh]	33.08			26.22			19.46			42.31		
Approach LOS	C			C			B			D		
d_I, Intersection Delay [s/veh]	31.90											
Intersection LOS	C											
Intersection V/C	0.703											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.273	2.144	3.368	3.151
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	644	956	956
d_b, Bicycle Delay [s]	20.67	20.67	12.27	12.27
l_b,int, Bicycle LOS Score for Intersection	2.140	2.129	2.686	3.027
Bicycle LOS	B	B	B	C

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Hesperia Big Box Retail and Fuel Station

Vistro File: K:\...\Hesperia Big Box Retail and Fuel Station_PM.vistro

Scenario 4 HY CUM PM

Report File: K:\...\4. HY PM.pdf

12/16/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Keypointe Dr at Amargosa Rd	Two-way stop	HCM 7th Edition	NB Left	0.122	25.0	D
2	US-395 at Phelan Rd/Main St	Signalized	HCM 7th Edition	NB Right	1.445	275.2	F
3	Mesa Linda St at Main St	Signalized	HCM 7th Edition	EB Left	0.427	14.0	B
4	Cataba Rd at Main St	Signalized	HCM 7th Edition	EB Left	0.526	26.8	C
5	Keypointe Dr at Main St	Signalized	HCM 7th Edition	EB Left	0.706	26.7	C
6	I-15 SB Ramps at Main St	Signalized	HCM 7th Edition	SB Right	0.597	13.3	B
7	I-15 NB Ramps at Main St	Signalized	HCM 7th Edition	NB Left	0.701	17.9	B
8	Mariposa Rd at Main St	Signalized	HCM 7th Edition	WB Left	0.666	32.4	C
9	Mountain Vista Ave at Main St	Signalized	HCM 7th Edition	WB Left	0.518	16.7	B
10	Escondido Ave at Main St	Signalized	HCM 7th Edition	NB Left	0.844	46.7	D
11	Topaz Ave at Main St	Signalized	HCM 7th Edition	WB Left	0.678	20.9	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Keypointe Dr at Amargosa Rd

Control Type:	Two-way stop	Delay (sec / veh):	25.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.122

Intersection Setup

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	1	0	1
Exit Pocket Length [ft]	0.00	100.00	0.00	49.21	0.00	477.13
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Base Volume Input [veh/h]	24	396	141	27	313	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	396	141	27	313	180
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	104	37	7	82	47
Total Analysis Volume [veh/h]	25	417	148	28	329	189
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.44	0.00	0.00	0.24	0.00
d_M, Delay for Movement [s/veh]	25.03	11.69	0.00	0.00	8.02	0.00
Movement LOS	D	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.41	2.26	0.00	0.00	0.67	0.33
95th-Percentile Queue Length [ft/ln]	10.25	56.47	0.00	0.00	16.71	8.36
d_A, Approach Delay [s/veh]	12.44		0.00		5.10	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	7.16					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 2: US-395 at Phelan Rd/Main St

Control Type:	Signalized	Delay (sec / veh):	275.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.445

Intersection Setup

Name	US-395			US-395			Phelan Rd			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395			US-395			Phelan Rd			Main St		
Base Volume Input [veh/h]	293	1764	129	623	1277	117	44	705	56	52	1011	554
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	293	1764	129	623	1277	117	44	705	56	52	1011	554
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	464	34	164	336	31	12	186	15	14	266	146
Total Analysis Volume [veh/h]	308	1857	136	656	1344	123	46	742	59	55	1064	583
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	16	28	0	16	28	0	15	14	0	16	15	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	30	0	23	38	0	10	16	0	21	27	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	26	26	19	34	34	3	25	25	4	26	26
g / C, Green / Cycle	0.12	0.29	0.29	0.21	0.38	0.38	0.04	0.28	0.28	0.04	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.18	0.53	0.55	0.39	0.39	0.40	0.03	0.22	0.22	0.03	0.45	0.48
s, saturation flow rate [veh/h]	1687	1870	1826	1687	1870	1816	1687	1870	1822	1687	1870	1657
c, Capacity [veh/h]	206	540	528	356	706	686	64	523	509	72	531	471
d1, Uniform Delay [s]	39.50	32.00	32.00	35.50	28.00	28.00	42.80	29.83	29.83	42.63	32.22	32.22
k, delay calibration	0.43	0.50	0.50	0.50	0.48	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	242.96	387.23	407.20	389.53	43.67	54.31	13.62	10.77	11.05	15.30	275.63	324.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.49	1.84	1.89	1.84	1.04	1.07	0.71	0.78	0.78	0.76	1.59	1.70
d, Delay for Lane Group [s/veh]	282.46	419.23	439.20	425.03	71.67	82.31	56.42	40.60	40.88	57.93	307.85	356.99
Lane Group LOS	F	F	F	F	F	F	E	D	D	E	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	18.40	69.42	70.72	46.14	22.96	24.32	1.24	9.39	9.19	1.50	51.80	52.33
50th-Percentile Queue Length [ft/ln]	459.88	1735.54	1767.89	1153.57	573.90	608.08	31.12	234.80	229.85	37.59	1295.06	1308.27
95th-Percentile Queue Length [veh/ln]	29.33	108.47	110.86	72.48	31.64	33.95	2.24	14.42	14.17	2.71	79.65	81.80
95th-Percentile Queue Length [ft/ln]	733.14	2711.80	2771.59	1811.93	791.09	848.71	56.01	360.45	354.17	67.65	1991.35	2044.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	282.46	428.48	439.20	425.03	76.50	82.31	56.42	40.72	40.88	57.93	317.91	356.99
Movement LOS	F	F	F	F	E	F	E	D	D	E	F	F
d_A, Approach Delay [s/veh]	409.57			184.53			41.59			322.90		
Approach LOS	F			F			D			F		
d_I, Intersection Delay [s/veh]	275.20											
Intersection LOS	F											
Intersection V/C	1.445											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	756	267	511
d_b, Bicycle Delay [s]	22.76	17.42	33.80	24.94
l_b,int, Bicycle LOS Score for Intersection	3.458	3.311	2.258	2.964
Bicycle LOS	C	C	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Mesa Linda St at Main St

Control Type:	Signalized	Delay (sec / veh):	14.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.427

Intersection Setup

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	460.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Base Volume Input [veh/h]	45	3	129	24	1	5	22	1430	15	74	1520	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	3	129	24	1	5	22	1430	15	74	1520	46
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	1	34	6	0	1	6	376	4	19	400	12
Total Analysis Volume [veh/h]	47	3	136	25	1	5	23	1505	16	78	1600	48
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	29	0	0	20	0	10	16	0	9	15	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	42	0	0	14	0	10	14	0	20	24	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	5	5	2	53	53	5	56	56
g / C, Green / Cycle	0.11	0.11	0.06	0.06	0.02	0.59	0.59	0.06	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.03	0.09	0.01	0.00	0.01	0.28	0.28	0.05	0.30	0.31
s, saturation flow rate [veh/h]	1786	1589	1784	1589	1687	3560	1860	1687	3560	1842
c, Capacity [veh/h]	199	177	107	96	41	2103	1099	101	2230	1154
d1, Uniform Delay [s]	36.57	38.87	40.34	39.88	43.42	10.48	10.48	41.68	9.04	9.04
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.66	6.87	1.16	0.22	11.23	0.77	1.47	11.48	0.76	1.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.25	0.77	0.24	0.05	0.56	0.48	0.48	0.77	0.49	0.49
d, Delay for Lane Group [s/veh]	37.22	45.73	41.50	40.10	54.65	11.25	11.95	53.16	9.80	10.51
Lane Group LOS	D	D	D	D	D	B	B	D	A	B
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.03	3.22	0.58	0.11	0.63	5.31	5.76	2.01	5.26	5.68
50th-Percentile Queue Length [ft/ln]	25.79	80.38	14.46	2.73	15.76	132.82	144.12	50.24	131.62	141.97
95th-Percentile Queue Length [veh/ln]	1.86	5.79	1.04	0.20	1.13	9.09	9.70	3.62	9.03	9.59
95th-Percentile Queue Length [ft/ln]	46.42	144.68	26.03	4.92	28.36	227.32	242.56	90.43	225.69	239.68

Movement, Approach, & Intersection Results

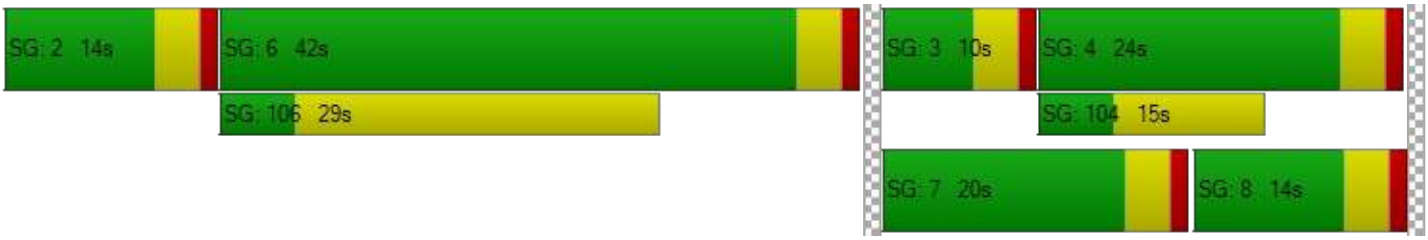
d_M, Delay for Movement [s/veh]	37.22	37.22	45.73	41.50	41.50	40.10	54.65	11.49	11.95	53.16	10.03	10.51
Movement LOS	D	D	D	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	43.45			41.27			12.13			11.99		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	13.99											
Intersection LOS	B											
Intersection V/C	0.427											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersectio	0.000	1.976	0.000	3.068
Crosswalk LOS	F	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	844	222	222	444
d_b, Bicycle Delay [s]	15.02	35.56	35.56	27.22
l_b,int, Bicycle LOS Score for Intersection	1.867	1.611	2.409	2.509
Bicycle LOS	A	A	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Cataba Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	26.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.526

Intersection Setup

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	260.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Base Volume Input [veh/h]	157	49	199	72	41	128	97	1201	153	180	1062	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	157	49	199	72	41	128	97	1201	153	180	1062	51
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	13	52	19	11	34	26	316	40	47	279	13
Total Analysis Volume [veh/h]	165	52	209	76	43	135	102	1264	161	189	1118	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	23	0	0	23	0	0	10	0	6	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	38	0	0	36	0	10	26	0	10	26	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	17	17	12	12	12	8	56	56	9	57	57
g / C, Green / Cycle	0.16	0.16	0.16	0.11	0.11	0.11	0.08	0.51	0.51	0.08	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.06	0.06	0.13	0.05	0.02	0.08	0.06	0.25	0.10	0.06	0.22	0.22
s, saturation flow rate [veh/h]	1687	1821	1589	1687	1870	1589	1687	5094	1589	3095	3560	1826
c, Capacity [veh/h]	263	284	248	181	200	170	128	2593	809	255	1836	942
d1, Uniform Delay [s]	41.75	41.75	45.10	45.92	44.89	47.93	50.01	17.64	14.75	49.32	16.49	16.49
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.97	0.89	7.57	1.55	0.53	8.08	10.76	0.66	0.55	4.21	0.71	1.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.40	0.84	0.42	0.21	0.79	0.80	0.49	0.20	0.74	0.42	0.42
d, Delay for Lane Group [s/veh]	42.72	42.65	52.67	47.48	45.42	56.00	60.77	18.30	15.31	53.54	17.20	17.88
Lane Group LOS	D	D	D	D	D	E	E	B	B	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.62	2.82	6.03	2.02	1.10	3.98	3.13	6.94	2.29	2.68	6.07	6.41
50th-Percentile Queue Length [ft/ln]	65.49	70.52	150.85	50.52	27.60	99.58	78.36	173.51	57.31	67.01	151.84	160.19
95th-Percentile Queue Length [veh/ln]	4.72	5.08	10.06	3.64	1.99	7.17	5.64	11.26	4.13	4.83	10.12	10.56
95th-Percentile Queue Length [ft/ln]	117.88	126.93	251.57	90.94	49.68	179.25	141.04	281.52	103.15	120.63	252.88	263.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.69	42.65	52.67	47.48	45.42	56.00	60.77	18.30	15.31	53.54	17.41	17.88
Movement LOS	D	D	D	D	D	E	E	B	B	D	B	B
d_A, Approach Delay [s/veh]	47.58			51.66			20.82			22.45		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	26.83											
Intersection LOS	C											
Intersection V/C	0.526											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	46.37	46.37	46.37	46.37
l_p,int, Pedestrian LOS Score for Intersectio	2.471	2.401	3.096	3.091
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	618	582	400	400
d_b, Bicycle Delay [s]	26.25	27.65	35.20	35.20
l_b,int, Bicycle LOS Score for Intersection	2.263	1.979	2.399	2.308
Bicycle LOS	B	A	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Keypointe Dr at Main St

Control Type:	Signalized	Delay (sec / veh):	26.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.706

Intersection Setup

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	741.32	180.00	100.00	366.47	192.10	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Base Volume Input [veh/h]	34	56	226	250	83	20	70	1392	29	280	1289	234
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	56	226	250	83	20	70	1392	29	280	1289	234
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	15	59	66	22	5	18	366	8	74	339	62
Total Analysis Volume [veh/h]	36	59	238	263	87	21	74	1465	31	295	1357	246
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	6	10	0	5	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	36	0	0	36	0	10	26	0	28	44	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	28	28	28	28	28	5	32	32	18	45	45
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.06	0.36	0.36	0.20	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.03	0.03	0.15	0.24	0.06	0.04	0.29	0.02	0.17	0.30	0.30
s, saturation flow rate [veh/h]	1285	1870	1589	1082	1808	1687	5094	1589	1687	3560	1727
c, Capacity [veh/h]	392	582	494	366	562	94	1822	568	334	1780	864
d1, Uniform Delay [s]	26.56	22.06	25.12	32.21	22.72	41.97	26.07	18.94	35.07	16.13	16.18
k, delay calibration	0.11	0.11	0.11	0.22	0.11	0.11	0.50	0.50	0.13	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.10	0.08	0.73	5.34	0.16	13.51	3.89	0.18	8.71	1.53	3.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.09	0.10	0.48	0.72	0.19	0.79	0.80	0.05	0.88	0.60	0.61
d, Delay for Lane Group [s/veh]	26.66	22.13	25.85	37.54	22.88	55.49	29.96	19.12	43.79	17.66	19.37
Lane Group LOS	C	C	C	D	C	E	C	B	D	B	B
Critical Lane Group	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.61	0.89	4.11	5.93	1.67	1.96	9.69	0.45	6.95	7.81	8.04
50th-Percentile Queue Length [ft/ln]	15.13	22.14	102.81	148.28	41.80	48.91	242.26	11.14	173.65	195.14	201.08
95th-Percentile Queue Length [veh/ln]	1.09	1.59	7.40	9.93	3.01	3.52	14.80	0.80	11.27	12.39	12.69
95th-Percentile Queue Length [ft/ln]	27.24	39.85	185.06	248.14	75.25	88.04	369.89	20.05	281.70	309.69	317.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.66	22.13	25.85	37.54	22.88	22.88	55.49	29.96	19.12	43.79	18.01	19.37
Movement LOS	C	C	C	D	C	C	E	C	B	D	B	B
d_A, Approach Delay [s/veh]	25.28			33.28			30.95			22.19		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	26.72											
Intersection LOS	C											
Intersection V/C	0.706											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.447	2.185	3.142	3.508
Crosswalk LOS	B	B	C	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	711	489	889
d_b, Bicycle Delay [s]	18.69	18.69	25.69	13.89
l_b,int, Bicycle LOS Score for Intersection	2.109	2.172	2.423	2.604
Bicycle LOS	B	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: I-15 SB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	13.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.597

Intersection Setup

Name							Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	639.00	100.00	100.00	200.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name							Main St			Main St		
Base Volume Input [veh/h]	0	0	0	502	0	343	0	1790	203	0	1446	369
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	502	0	343	0	1790	203	0	1446	369
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	132	0	90	0	471	53	0	381	97
Total Analysis Volume [veh/h]	0	0	0	528	0	361	0	1884	214	0	1522	388
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	7	0	4	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	5	0	5	0	10	0	0	10	0
Maximum Green [s]	0	0	0	32	0	32	0	20	0	0	20	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	36	0	94	0	54	0	0	54	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	10	0	0	0	3	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		90	90	90	90
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		24	24	58	58
g / C, Green / Cycle		0.26	0.26	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate		0.17	0.23	0.37	0.30
s, saturation flow rate [veh/h]		3095	1589	5094	5094
c, Capacity [veh/h]		819	421	3292	3292
d1, Uniform Delay [s]		29.33	31.47	8.93	8.03
k, delay calibration		0.11	0.19	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.86	8.53	0.73	0.47
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.64	0.86	0.57	0.46
d, Delay for Lane Group [s/veh]		30.18	40.00	9.66	8.50
Lane Group LOS		C	D	A	A
Critical Lane Group		No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		5.04	8.25	6.13	4.43
50th-Percentile Queue Length [ft/ln]		125.96	206.19	153.33	110.86
95th-Percentile Queue Length [veh/ln]		8.72	12.96	10.19	7.89
95th-Percentile Queue Length [ft/ln]		217.99	323.93	254.87	197.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	30.18	0.00	40.00	0.00	9.66	0.00	0.00	8.50	0.00
Movement LOS				C		D		A			A	
d_A, Approach Delay [s/veh]	0.00			34.17			8.72			6.84		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	13.32											
Intersection LOS	B											
Intersection V/C	0.597											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	711	1111	1111
d_b, Bicycle Delay [s]	45.00	18.69	8.89	8.89
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.596	2.397
Bicycle LOS	D	A	B	B

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: I-15 NB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	17.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.701

Intersection Setup

Name	I-15 NB Ramps						Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	639.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	307.42
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	I-15 NB Ramps						Main St			Main St		
Base Volume Input [veh/h]	483	17	773	0	0	0	0	1919	320	0	1382	604
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	483	17	773	0	0	0	0	1919	320	0	1382	604
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	127	4	203	0	0	0	0	505	84	0	364	159
Total Analysis Volume [veh/h]	508	18	814	0	0	0	0	2020	337	0	1455	636
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	26	0	0	26	0	0	26	0	0	26	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	55	0	0	94	0	0	35	0	0	35	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No						No			No	
Maximum Recall		No						No			No	
Pedestrian Recall		No						No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R		C	C	R
C, Cycle Length [s]	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	31	31	31		51	51	51
g / C, Green / Cycle	0.35	0.35	0.35		0.56	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.30	0.26	0.26		0.40	0.29	0.40
s, saturation flow rate [veh/h]	1687	1600	1589		5094	5094	1589
c, Capacity [veh/h]	590	560	556		2860	2860	892
d1, Uniform Delay [s]	27.23	25.72	25.77		14.35	12.12	14.43
k, delay calibration	0.12	0.11	0.11		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	4.14	1.98	2.04		1.50	0.65	4.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.74	0.75		0.71	0.51	0.71
d, Delay for Lane Group [s/veh]	31.37	27.70	27.82		15.84	12.77	19.26
Lane Group LOS	C	C	C		B	B	B
Critical Lane Group	Yes	No	No		No	No	Yes
50th-Percentile Queue Length [veh/ln]	10.42	7.84	7.87		9.38	5.64	9.74
50th-Percentile Queue Length [ft/ln]	260.46	196.03	196.65		234.58	141.01	243.38
95th-Percentile Queue Length [veh/ln]	15.71	12.43	12.47		14.41	9.54	14.85
95th-Percentile Queue Length [ft/ln]	392.80	310.83	311.64		360.17	238.38	371.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.37	27.70	27.76	0.00	0.00	0.00	0.00	15.84	0.00	0.00	12.77	19.26
Movement LOS	C	C	C					B			B	B
d_A, Approach Delay [s/veh]	29.13			0.00			13.68			14.74		
Approach LOS	C			A			B			B		
d_I, Intersection Delay [s/veh]	17.88											
Intersection LOS	B											
Intersection V/C	0.701											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.459	2.063	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1133	0	689	689
d_b, Bicycle Delay [s]	8.45	45.00	19.34	19.34
l_b,int, Bicycle LOS Score for Intersection	3.771	4.132	2.671	2.710
Bicycle LOS	D	D	B	B

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Mariposa Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	32.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.666

Intersection Setup

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	307.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Base Volume Input [veh/h]	104	139	111	190	107	240	324	2063	196	127	1421	167
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	104	139	111	190	107	240	324	2063	196	127	1421	167
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	37	29	50	28	63	85	543	52	33	374	44
Total Analysis Volume [veh/h]	109	146	117	200	113	253	341	2172	206	134	1496	176
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	36	0	5	36	0	5	16	0	5	16	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	94	40	0	94	40	0	31	38	0	12	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	0	0	31	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	31	31	31	31	20	38	38	9	27	27
g / C, Green / Cycle	0.34	0.34	0.34	0.34	0.23	0.42	0.42	0.10	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.11	0.15	0.18	0.22	0.20	0.35	0.35	0.08	0.24	0.24
s, saturation flow rate [veh/h]	1016	1734	1116	1667	1687	5094	1766	1687	5094	1743
c, Capacity [veh/h]	222	598	311	574	381	2163	750	164	1509	516
d1, Uniform Delay [s]	37.28	22.78	34.48	24.77	33.81	22.78	22.89	39.82	29.50	29.50
k, delay calibration	0.11	0.11	0.11	0.12	0.14	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.67	0.51	2.22	1.35	9.25	3.51	9.87	9.35	5.28	14.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.44	0.64	0.64	0.90	0.81	0.82	0.81	0.83	0.83
d, Delay for Lane Group [s/veh]	38.96	23.29	36.70	26.12	43.05	26.29	32.76	49.17	34.78	43.51
Lane Group LOS	D	C	D	C	D	C	C	D	C	D
Critical Lane Group	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.38	4.27	4.32	6.55	8.02	11.02	12.93	3.29	8.82	10.31
50th-Percentile Queue Length [ft/ln]	59.43	106.80	108.04	163.75	200.44	275.61	323.36	82.29	220.48	257.72
95th-Percentile Queue Length [veh/ln]	4.28	7.66	7.73	10.75	12.66	16.47	18.83	5.92	13.69	15.57
95th-Percentile Queue Length [ft/ln]	106.97	191.55	193.27	268.68	316.54	411.74	470.82	148.12	342.24	389.37

Movement, Approach, & Intersection Results

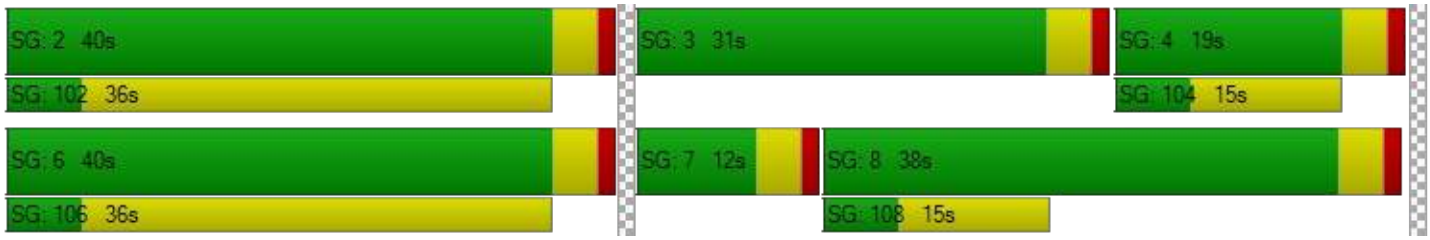
d_M, Delay for Movement [s/veh]	38.96	23.29	23.29	36.70	26.12	26.12	43.05	27.51	32.76	49.17	36.25	43.51
Movement LOS	D	C	C	D	C	C	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	27.88			29.86			29.86			37.91		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	32.39											
Intersection LOS	C											
Intersection V/C	0.666											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.210	2.341	3.502	3.601
Crosswalk LOS	B	B	D	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	800	756	333
d_b, Bicycle Delay [s]	16.20	16.20	17.42	31.25
l_b,int, Bicycle LOS Score for Intersection	2.173	2.494	2.681	2.305
Bicycle LOS	B	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Mountain Vista Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	16.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.518

Intersection Setup

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	330.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Base Volume Input [veh/h]	66	4	45	71	7	19	37	2329	31	92	1749	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	66	4	45	71	7	19	37	2329	31	92	1749	50
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	1	12	19	2	5	10	613	8	24	460	13
Total Analysis Volume [veh/h]	69	4	47	75	7	20	39	2452	33	97	1841	53
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	10	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	10	0	10	0	6	10	0	5	10	0
Amber [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	40	40	0	47	0	10	33	0	10	33	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	31	0	38	0	0	24	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No	No		No		No	No		No	No	
Maximum Recall		No	No		No		No	No		No	No	
Pedestrian Recall		No	No		No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	L	C	C	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	24	10	10	4	84	84	10	91	91
g / C, Green / Cycle	0.08	0.08	0.08	0.19	0.08	0.08	0.03	0.65	0.65	0.08	0.70	0.70
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.00	0.02	0.03	0.03	0.01	0.40	0.40	0.06	0.40	0.04
s, saturation flow rate [veh/h]	1518	1603	1683	2532	1518	1541	2785	4584	1668	1518	4584	1431
c, Capacity [veh/h]	116	122	128	469	115	116	81	2965	1079	119	3191	996
d1, Uniform Delay [s]	56.75	56.68	55.59	43.95	57.45	57.50	62.14	13.45	13.46	58.98	10.04	6.24
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.42	1.24	0.10	0.09	2.60	2.67	4.37	0.96	2.62	12.56	0.77	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.28	0.03	0.10	0.44	0.45	0.48	0.61	0.61	0.82	0.58	0.05
d, Delay for Lane Group [s/veh]	58.16	57.92	55.69	44.04	60.05	60.17	66.52	14.42	16.08	71.55	10.80	6.34
Lane Group LOS	E	E	E	D	E	E	E	B	B	E	B	A
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.12	1.12	0.13	0.64	1.66	1.73	0.69	10.19	11.64	3.56	8.51	0.47
50th-Percentile Queue Length [ft/ln]	28.04	27.92	3.14	16.04	41.52	43.20	17.14	254.85	291.02	89.12	212.69	11.81
95th-Percentile Queue Length [veh/ln]	2.02	2.01	0.23	1.15	2.99	3.11	1.23	15.43	17.24	6.42	13.29	0.85
95th-Percentile Queue Length [ft/ln]	50.47	50.26	5.66	28.86	74.73	77.75	30.85	385.75	430.90	160.41	332.28	21.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	58.04	55.69	44.04	60.09	60.17	60.17	66.52	14.84	16.08	71.55	10.80	6.34
Movement LOS	E	E	D	E	E	E	E	B	B	E	B	A
d_A, Approach Delay [s/veh]	52.48			60.11			15.66			13.64		
Approach LOS	D			E			B			B		
d_I, Intersection Delay [s/veh]	16.70											
Intersection LOS	B											
Intersection V/C	0.518											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.649	2.198	3.420	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	662	446	446
d_b, Bicycle Delay [s]	33.98	29.11	39.23	39.23
l_b,int, Bicycle LOS Score for Intersection	1.659	1.728	2.601	2.655
Bicycle LOS	A	A	B	B

Sequence

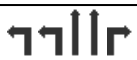
Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Escondido Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	46.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.844

Intersection Setup

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	661.02
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	382.98
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Base Volume Input [veh/h]	505	230	317	51	38	233	57	1706	621	424	1149	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	505	230	317	51	38	233	57	1706	621	424	1149	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	133	61	83	13	10	61	15	449	163	112	302	2
Total Analysis Volume [veh/h]	532	242	334	54	40	245	60	1796	654	446	1209	7
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	0	3	8	8	7	4	0
Auxiliary Signal Groups			6,7						1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	10	5	10	0
Maximum Green [s]	5	10	10	6	10	0	6	10	10	6	10	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	24	47	47	10	33	0	10	47	47	16	53	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	5	0	5	0
Pedestrian Clearance [s]	0	27	27	0	24	0	0	21	21	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No		No	No	No	No	No	
Maximum Recall	No	No	No	No	No		No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	38	60	5	23	5	43	67	18	56	56
g / C, Green / Cycle	0.17	0.32	0.50	0.04	0.19	0.05	0.36	0.56	0.15	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.17	0.13	0.21	0.03	0.18	0.04	0.35	0.41	0.14	0.34	0.00
s, saturation flow rate [veh/h]	3095	1870	1589	1687	1624	1687	5094	1589	3095	3560	1589
c, Capacity [veh/h]	516	595	795	68	312	76	1830	889	460	1647	735
d1, Uniform Delay [s]	50.00	32.02	18.97	57.07	47.49	56.73	38.04	19.80	50.82	26.23	17.40
k, delay calibration	0.11	0.11	0.14	0.11	0.25	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	27.09	0.45	0.47	18.14	20.00	16.25	17.06	5.39	13.67	2.94	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.03	0.41	0.42	0.79	0.91	0.79	0.98	0.74	0.97	0.73	0.01
d, Delay for Lane Group [s/veh]	77.09	32.46	19.44	75.22	67.49	72.97	55.10	25.19	64.49	29.17	17.42
Lane Group LOS	F	C	B	E	E	E	E	C	E	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	9.64	5.59	5.92	1.97	10.04	2.14	19.99	14.47	7.51	14.42	0.11
50th-Percentile Queue Length [ft/ln]	241.11	139.69	148.05	49.18	251.12	53.61	499.67	361.68	187.80	360.62	2.76
95th-Percentile Queue Length [veh/ln]	14.96	9.46	9.91	3.54	15.24	3.86	27.32	20.71	12.01	20.65	0.20
95th-Percentile Queue Length [ft/ln]	373.94	236.61	247.82	88.53	381.07	96.49	682.97	517.63	300.17	516.34	4.97

Movement, Approach, & Intersection Results

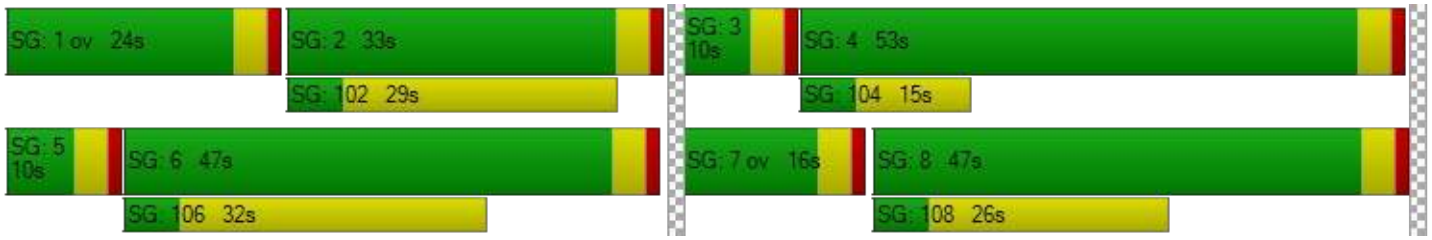
d_M, Delay for Movement [s/veh]	77.09	32.46	19.44	75.22	67.49	67.49	72.97	55.10	25.19	64.49	29.17	17.42
Movement LOS	F	C	B	E	E	E	E	E	C	E	C	B
d_A, Approach Delay [s/veh]	49.97			68.72			47.74			38.60		
Approach LOS	D			E			D			D		
d_I, Intersection Delay [s/veh]	46.74											
Intersection LOS	D											
Intersection V/C	0.844											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.833	2.166	3.289	3.209
Crosswalk LOS	C	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	717	483	717	817
d_b, Bicycle Delay [s]	24.70	34.50	24.70	21.00
l_b,int, Bicycle LOS Score for Intersection	3.388	2.119	2.940	2.931
Bicycle LOS	C	B	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Topaz Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	20.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.678

Intersection Setup

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	1279.32	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Base Volume Input [veh/h]	170	37	66	65	35	53	69	1709	225	57	1280	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	170	37	66	65	35	53	69	1709	225	57	1280	65
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	10	17	17	9	14	18	450	59	15	337	17
Total Analysis Volume [veh/h]	179	39	69	68	37	56	73	1799	237	60	1347	68
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	33	0	38	19	0	38	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	21	21	21	21	5	53	53	4	52	52
g / C, Green / Cycle	0.23	0.23	0.23	0.23	0.06	0.59	0.59	0.05	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.14	0.06	0.05	0.06	0.04	0.51	0.15	0.04	0.38	0.38
s, saturation flow rate [veh/h]	1303	1681	1285	1690	1687	3560	1589	1687	1870	1839
c, Capacity [veh/h]	291	391	278	394	95	2092	934	78	1080	1062
d1, Uniform Delay [s]	36.62	28.30	34.00	28.02	41.89	15.46	8.99	42.45	12.97	13.00
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.10	0.38	0.45	0.31	12.20	4.89	0.65	14.73	3.16	3.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.61	0.28	0.24	0.24	0.77	0.86	0.25	0.77	0.66	0.66
d, Delay for Lane Group [s/veh]	38.72	28.68	34.45	28.33	54.10	20.36	9.64	57.18	16.13	16.26
Lane Group LOS	D	C	C	C	D	C	A	E	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.92	1.92	1.35	1.64	1.90	14.88	2.23	1.62	9.75	9.67
50th-Percentile Queue Length [ft/ln]	98.03	48.09	33.69	40.97	47.56	371.92	55.77	40.57	243.66	241.84
95th-Percentile Queue Length [veh/ln]	7.06	3.46	2.43	2.95	3.42	21.20	4.02	2.92	14.87	14.77
95th-Percentile Queue Length [ft/ln]	176.46	86.57	60.63	73.74	85.61	530.06	100.38	73.03	371.66	369.35

Movement, Approach, & Intersection Results

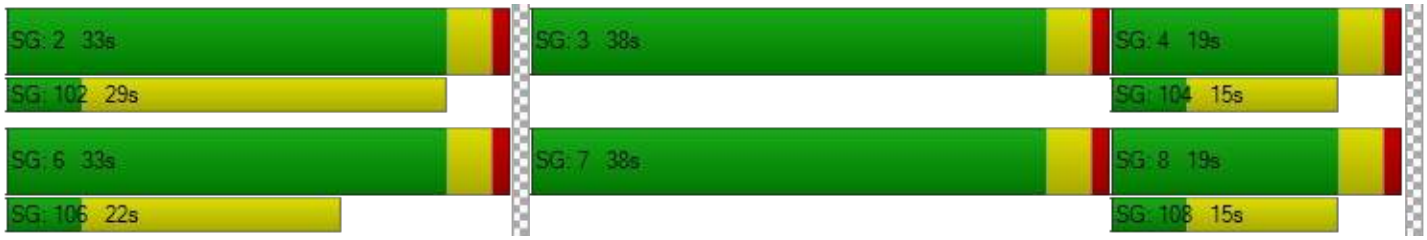
d_M, Delay for Movement [s/veh]	38.72	28.68	28.68	34.45	28.33	28.33	54.10	20.36	9.64	57.18	16.19	16.26
Movement LOS	D	C	C	C	C	C	D	C	A	E	B	B
d_A, Approach Delay [s/veh]	34.94			30.91			20.32			17.86		
Approach LOS	C			C			C			B		
d_I, Intersection Delay [s/veh]	20.88											
Intersection LOS	C											
Intersection V/C	0.678											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.144	2.053	3.364	3.063
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	644	333	333
d_b, Bicycle Delay [s]	20.67	20.67	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.033	1.825	3.300	2.776
Bicycle LOS	B	A	C	C

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX D-5

INTERSECTION ANALYSIS WORKSHEETS – HORIZON YEAR 2045 PLUS PROJECT

Hesperia Big Box Retail and Fuel Station

Vistro File: K:\...\Hesperia Big Box Retail and Fuel Station_AM.vistro

Scenario 5 HY CUM WP AM

Report File: K:\...\5. HY WP AM.pdf

3/12/2025

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Keypointe Dr at Amargosa Rd	Two-way stop	HCM 7th Edition	NB Left	0.068	57.1	F
2	US-395 at Phelan Rd/Main St	Signalized	HCM 7th Edition	SB Left	0.991	127.5	F
3	Mesa Linda St at Main St	Signalized	HCM 7th Edition	EB Left	0.336	13.3	B
4	Cataba Rd at Main St	Signalized	HCM 7th Edition	EB Left	0.399	19.8	B
5	Keypointe Dr at Main St	Signalized	HCM 7th Edition	EB Left	0.683	27.3	C
6	I-15 SB Ramps at Main St	Signalized	HCM 7th Edition	SB Right	0.574	13.1	B
7	I-15 NB Ramps at Main St	Signalized	HCM 7th Edition	NB Right	0.512	9.7	A
8	Mariposa Rd at Main St	Signalized	HCM 7th Edition	EB Left	0.610	25.6	C
9	Mountain Vista Ave at Main St	Signalized	HCM 7th Edition	WB Left	0.590	14.2	B
10	Escondido Ave at Main St	Signalized	HCM 7th Edition	SB Left	0.724	30.7	C
11	Topaz Ave at Main St	Signalized	HCM 7th Edition	EB Left	0.723	34.7	C
101	Keypointe Dr at South Fuel Entrance Dwy	Two-way stop	HCM 7th Edition	SB Left	0.008	8.3	A
102	Amargosa Rd at West Retail Dwy/West Fuel Dwy	Signalized	HCM 7th Edition	SB Right	0.276	11.6	B
103	Amargosa Rd at East Retail Dwy/East Fuel Exit Dwy	Two-way stop	HCM 7th Edition	SB Right	0.015	9.7	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Keypointe Dr at Amargosa Rd

Control Type:	Two-way stop	Delay (sec / veh):	57.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.068

Intersection Setup

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	1	0	1
Exit Pocket Length [ft]	0.00	100.00	0.00	49.21	0.00	477.13
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Base Volume Input [veh/h]	5	177	120	7	358	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	97	0	0	140	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	18	0	0	91	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	292	120	7	589	60
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	77	32	2	155	16
Total Analysis Volume [veh/h]	5	307	126	7	620	63
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.31	0.00	0.00	0.43	0.00
d_M, Delay for Movement [s/veh]	57.11	10.31	0.00	0.00	8.97	0.00
Movement LOS	F	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.21	1.34	0.00	0.00	1.93	0.96
95th-Percentile Queue Length [ft/ln]	5.30	33.51	0.00	0.00	48.22	24.11
d_A, Approach Delay [s/veh]	11.06		0.00		8.15	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	7.99					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 2: US-395 at Phelan Rd/Main St

Control Type:	Signalized	Delay (sec / veh):	127.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.991

Intersection Setup

Name	US-395			US-395			Phelan Rd			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395			US-395			Phelan Rd			Main St		
Base Volume Input [veh/h]	65	1108	30	261	1686	29	71	937	282	100	637	622
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	18	0	0	0	18	0	0	14	14
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	1108	30	279	1686	29	71	955	282	100	651	636
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	292	8	73	444	8	19	251	74	26	171	167
Total Analysis Volume [veh/h]	68	1166	32	294	1775	31	75	1005	297	105	685	669
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	6	28	0	12	28	0	15	29	0	16	29	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	31	0	16	37	0	10	33	0	10	33	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	27	27	12	34	34	5	29	29	6	30	30
g / C, Green / Cycle	0.05	0.30	0.30	0.13	0.38	0.38	0.06	0.32	0.32	0.07	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.04	0.32	0.32	0.17	0.48	0.49	0.04	0.36	0.36	0.06	0.37	0.42
s, saturation flow rate [veh/h]	1687	1870	1852	1687	1870	1859	1687	1870	1726	1687	1870	1589
c, Capacity [veh/h]	89	561	556	225	712	708	96	603	556	112	620	527
d1, Uniform Delay [s]	42.09	31.50	31.50	39.00	27.87	27.87	41.86	30.50	30.50	41.80	30.07	30.07
k, delay calibration	0.11	0.47	0.47	0.50	0.50	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.84	57.85	58.34	166.39	131.65	134.97	12.51	72.95	79.78	25.98	68.12	135.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	1.07	1.07	1.31	1.27	1.28	0.78	1.12	1.13	0.93	1.10	1.27
d, Delay for Lane Group [s/veh]	54.93	89.35	89.84	205.39	159.52	162.84	54.37	103.45	110.28	67.78	98.19	165.46
Lane Group LOS	D	F	F	F	F	F	D	F	F	E	F	F
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.79	20.73	20.61	15.27	40.50	40.91	1.96	24.71	23.87	3.10	24.55	30.72
50th-Percentile Queue Length [ft/ln]	44.80	518.19	515.23	381.82	1012.42	1022.63	49.00	617.75	596.64	77.53	613.82	768.05
95th-Percentile Queue Length [veh/ln]	3.23	29.46	29.33	24.12	59.20	59.92	3.53	35.25	34.44	5.58	34.85	45.81
95th-Percentile Queue Length [ft/ln]	80.64	736.55	733.24	602.91	1479.99	1498.08	88.21	881.21	861.04	139.56	871.28	1145.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.93	89.58	89.84	205.39	161.15	162.84	54.37	105.71	110.28	67.78	98.19	165.46
Movement LOS	D	F	F	F	F	F	D	F	F	E	F	F
d_A, Approach Delay [s/veh]	87.73			167.37			103.90			126.85		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	127.49											
Intersection LOS	F											
Intersection V/C	0.991											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	733	644	644
d_b, Bicycle Delay [s]	22.05	18.05	20.67	20.67
l_b,int, Bicycle LOS Score for Intersection	2.604	3.292	2.696	2.763
Bicycle LOS	B	C	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Mesa Linda St at Main St

Control Type:	Signalized	Delay (sec / veh):	13.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.336

Intersection Setup

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	460.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Base Volume Input [veh/h]	2	1	41	37	0	34	13	1010	22	116	1384	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	36	0	0	28	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1	41	37	0	34	13	1046	22	116	1412	18
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	11	10	0	9	3	275	6	31	372	5
Total Analysis Volume [veh/h]	2	1	43	39	0	36	14	1101	23	122	1486	19
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	29	0	0	20	0	6	16	0	9	29	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	14	0	10	14	0	29	33	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	7	8	8	1	50	50	8	57	57
g / C, Green / Cycle	0.08	0.08	0.09	0.09	0.02	0.56	0.56	0.09	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.00	0.03	0.02	0.02	0.01	0.21	0.21	0.07	0.28	0.28
s, saturation flow rate [veh/h]	1810	1589	1781	1589	1687	3560	1850	1687	3560	1858
c, Capacity [veh/h]	139	122	168	150	28	1991	1035	155	2259	1179
d1, Uniform Delay [s]	38.41	39.41	37.75	37.78	43.88	11.03	11.04	40.00	8.32	8.32
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	1.72	0.70	0.82	13.11	0.53	1.02	8.47	0.62	1.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.02	0.35	0.23	0.24	0.50	0.37	0.37	0.79	0.44	0.44
d, Delay for Lane Group [s/veh]	38.47	41.13	38.45	38.60	56.99	11.57	12.06	48.47	8.94	9.50
Lane Group LOS	D	D	D	D	E	B	B	D	A	A
Critical Lane Group	No	Yes	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.06	0.95	0.82	0.76	0.41	3.94	4.23	2.97	4.46	4.84
50th-Percentile Queue Length [ft/ln]	1.58	23.78	20.52	19.05	10.21	98.38	105.86	74.30	111.58	121.08
95th-Percentile Queue Length [veh/ln]	0.11	1.71	1.48	1.37	0.74	7.08	7.61	5.35	7.93	8.45
95th-Percentile Queue Length [ft/ln]	2.84	42.81	36.93	34.29	18.38	177.09	190.23	133.74	198.20	211.31

Movement, Approach, & Intersection Results

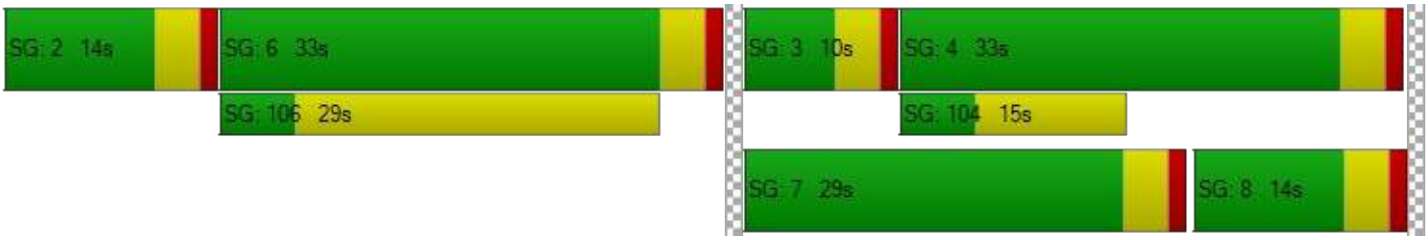
d_M, Delay for Movement [s/veh]	38.47	38.47	41.13	38.45	38.45	38.60	56.99	11.73	12.06	48.47	9.13	9.50
Movement LOS	D	D	D	D	D	D	E	B	B	D	A	A
d_A, Approach Delay [s/veh]	40.96			38.53			12.29			12.08		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	13.31											
Intersection LOS	B											
Intersection V/C	0.336											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersectio	0.000	1.977	0.000	2.987
Crosswalk LOS	F	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	222	222	644
d_b, Bicycle Delay [s]	20.67	35.56	35.56	20.67
l_b,int, Bicycle LOS Score for Intersection	1.636	1.683	2.186	2.454
Bicycle LOS	A	A	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Cataba Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	19.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.399

Intersection Setup

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	260.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Base Volume Input [veh/h]	62	14	113	42	9	54	78	806	90	160	1154	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	36	0	0	28	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	62	14	113	42	9	54	78	842	90	160	1182	48
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	4	30	11	2	14	21	222	24	42	311	13
Total Analysis Volume [veh/h]	65	15	119	44	9	57	82	886	95	168	1244	51
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	23	0	0	23	0	0	10	0	5	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	36	0	0	36	0	12	26	0	12	26	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	11	11	10	10	10	7	65	65	8	67	67
g / C, Green / Cycle	0.10	0.10	0.10	0.09	0.09	0.09	0.06	0.60	0.60	0.08	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.07	0.03	0.00	0.04	0.05	0.17	0.06	0.05	0.24	0.24
s, saturation flow rate [veh/h]	1687	1812	1589	1687	1870	1589	1687	5094	1589	3095	3560	1833
c, Capacity [veh/h]	162	174	153	149	166	141	105	3029	945	233	2164	1114
d1, Uniform Delay [s]	46.00	45.99	48.58	46.91	45.91	47.39	50.84	10.94	9.61	49.74	11.14	11.14
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.75	0.69	8.30	1.08	0.13	1.87	11.85	0.25	0.21	4.19	0.54	1.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.24	0.24	0.78	0.29	0.05	0.40	0.78	0.29	0.10	0.72	0.40	0.40
d, Delay for Lane Group [s/veh]	46.75	46.68	56.88	48.00	46.05	49.26	62.69	11.18	9.82	53.93	11.68	12.19
Lane Group LOS	D	D	E	D	D	D	E	B	A	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.01	1.08	3.53	1.17	0.23	1.55	2.57	3.46	1.01	2.39	5.27	5.58
50th-Percentile Queue Length [ft/ln]	25.34	26.99	88.37	29.33	5.80	38.74	64.16	86.46	25.34	59.73	131.80	139.61
95th-Percentile Queue Length [veh/ln]	1.82	1.94	6.36	2.11	0.42	2.79	4.62	6.22	1.82	4.30	9.04	9.46
95th-Percentile Queue Length [ft/ln]	45.61	48.58	159.07	52.80	10.44	69.74	115.49	155.62	45.62	107.51	225.94	236.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.75	46.68	56.88	48.00	46.05	49.26	62.69	11.18	9.82	53.93	11.84	12.19
Movement LOS	D	D	E	D	D	D	E	B	A	D	B	B
d_A, Approach Delay [s/veh]	52.79			48.49			15.03			16.68		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	19.83											
Intersection LOS	B											
Intersection V/C	0.399											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	46.37	46.37	46.37	46.37
l_p,int, Pedestrian LOS Score for Intersectio	2.403	2.361	3.033	3.043
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	582	582	400	400
d_b, Bicycle Delay [s]	27.65	27.65	35.20	35.20
l_b,int, Bicycle LOS Score for Intersection	1.888	1.741	2.144	2.364
Bicycle LOS	A	A	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Keypointe Dr at Main St

Control Type:	Signalized	Delay (sec / veh):	27.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.683

Intersection Setup

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	741.32	180.00	100.00	366.47	192.10	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Base Volume Input [veh/h]	10	10	58	247	38	33	21	1025	9	133	1235	154
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	103	0	28	36	0	0	0	0	125
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	46	0	45	46	-46	0	0	-45	45
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	58	396	38	106	103	979	9	133	1190	324
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	15	104	10	28	27	258	2	35	313	85
Total Analysis Volume [veh/h]	11	11	61	417	40	112	108	1031	9	140	1253	341
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	36	0	0	36	0	10	26	0	28	44	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	32	32	32	32	32	6	37	37	9	40	40
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.36	0.07	0.41	0.41	0.10	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.01	0.01	0.04	0.31	0.09	0.06	0.20	0.01	0.08	0.30	0.31
s, saturation flow rate [veh/h]	1235	1870	1589	1328	1655	1687	5094	1589	1687	3560	1673
c, Capacity [veh/h]	411	664	565	517	588	113	2073	647	176	1582	744
d1, Uniform Delay [s]	24.32	18.81	19.45	29.51	20.59	41.86	19.84	15.91	39.37	19.96	19.99
k, delay calibration	0.11	0.11	0.11	0.37	0.11	0.28	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	0.01	0.08	9.59	0.23	53.03	0.86	0.04	7.93	2.43	5.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.03	0.02	0.11	0.81	0.26	0.96	0.50	0.01	0.80	0.68	0.69
d, Delay for Lane Group [s/veh]	24.35	18.82	19.53	39.10	20.82	94.89	20.69	15.95	47.30	22.39	25.12
Lane Group LOS	C	B	B	D	C	F	C	B	D	C	C
Critical Lane Group	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.17	0.15	0.85	9.82	2.25	4.02	5.30	0.11	3.37	9.10	9.15
50th-Percentile Queue Length [ft/ln]	4.35	3.71	21.31	245.43	56.31	100.53	132.50	2.87	84.22	227.48	228.80
95th-Percentile Queue Length [veh/ln]	0.31	0.27	1.53	14.96	4.05	7.24	9.08	0.21	6.06	14.05	14.11
95th-Percentile Queue Length [ft/ln]	7.83	6.67	38.36	373.89	101.36	180.95	226.89	5.17	151.60	351.15	352.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.35	18.82	19.53	39.10	20.82	20.82	94.89	20.69	15.95	47.30	22.76	25.12
Movement LOS	C	B	B	D	C	C	F	C	B	D	C	C
d_A, Approach Delay [s/veh]	20.08			34.22			27.63			25.20		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	27.32											
Intersection LOS	C											
Intersection V/C	0.683											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.354	2.276	3.050	3.640
Crosswalk LOS	B	B	C	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	711	489	889
d_b, Bicycle Delay [s]	18.69	18.69	25.69	13.89
l_b,int, Bicycle LOS Score for Intersection	1.697	2.498	2.191	2.513
Bicycle LOS	A	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: I-15 SB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	13.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.574

Intersection Setup

Name							Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	639.00	100.00	100.00	200.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name							Main St			Main St		
Base Volume Input [veh/h]	0	0	0	252	0	389	0	1123	104	0	1329	527
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	35	0	73	30	0	90	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	252	0	424	0	1196	134	0	1419	527
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	66	0	112	0	315	35	0	373	139
Total Analysis Volume [veh/h]	0	0	0	265	0	446	0	1259	141	0	1494	555
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	7	0	4	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	5	0	5	0	10	0	0	10	0
Maximum Green [s]	0	0	0	32	0	32	0	17	0	0	17	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	69	0	94	0	21	0	0	21	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	10	0	0	0	3	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		90	90	90	90
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		28	28	54	54
g / C, Green / Cycle		0.31	0.31	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate		0.09	0.28	0.25	0.29
s, saturation flow rate [veh/h]		3095	1589	5094	5094
c, Capacity [veh/h]		975	501	3036	3036
d1, Uniform Delay [s]		23.09	29.34	9.75	10.39
k, delay calibration		0.11	0.11	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.15	5.67	0.42	0.57
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.27	0.89	0.41	0.49
d, Delay for Lane Group [s/veh]		23.24	35.01	10.17	10.96
Lane Group LOS		C	D	B	B
Critical Lane Group		No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]		2.09	9.63	4.13	5.23
50th-Percentile Queue Length [ft/ln]		52.15	240.68	103.24	130.81
95th-Percentile Queue Length [veh/ln]		3.76	14.72	7.43	8.98
95th-Percentile Queue Length [ft/ln]		93.88	367.89	185.83	224.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	23.24	0.00	35.01	0.00	10.17	0.00	0.00	10.96	0.00
Movement LOS				C		D		B			B	
d_A, Approach Delay [s/veh]	0.00			30.62			9.20			8.11		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	13.12											
Intersection LOS	B											
Intersection V/C	0.574											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	1444	378	378
d_b, Bicycle Delay [s]	45.00	3.47	29.61	29.61
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.252	2.381
Bicycle LOS	D	A	B	B

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: I-15 NB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	9.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.512

Intersection Setup

Name	I-15 NB Ramps						Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	639.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	307.42
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	I-15 NB Ramps						Main St			Main St		
Base Volume Input [veh/h]	127	2	404	0	0	0	0	1090	301	0	1600	571
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	0	0	0	0	0	0	44	29	0	54	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	2	404	0	0	0	0	1134	330	0	1654	571
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	1	106	0	0	0	0	298	87	0	435	150
Total Analysis Volume [veh/h]	172	2	425	0	0	0	0	1194	347	0	1741	601
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	27	0	0	26	0	0	26	0	0	26	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	31	0	0	94	0	0	59	0	0	59	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No						No			No	
Maximum Recall		No						No			No	
Pedestrian Recall		No						No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R		C	C	R
C, Cycle Length [s]	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	15	15	15		67	67	67
g / C, Green / Cycle	0.17	0.17	0.17		0.74	0.74	0.74
(v / s)_i Volume / Saturation Flow Rate	0.10	0.13	0.13		0.23	0.34	0.38
s, saturation flow rate [veh/h]	1687	1592	1589		5094	5094	1589
c, Capacity [veh/h]	285	269	268		3781	3781	1180
d1, Uniform Delay [s]	34.62	35.91	35.91		3.90	4.54	4.81
k, delay calibration	0.11	0.11	0.11		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	2.06	5.31	5.32		0.22	0.41	1.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.60	0.80	0.80		0.32	0.46	0.51
d, Delay for Lane Group [s/veh]	36.68	41.22	41.23		4.12	4.95	6.38
Lane Group LOS	D	D	D		A	A	A
Critical Lane Group	No	No	Yes		No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.60	4.82	4.81		1.91	3.26	3.93
50th-Percentile Queue Length [ft/ln]	89.88	120.47	120.32		47.83	81.40	98.22
95th-Percentile Queue Length [veh/ln]	6.47	8.42	8.41		3.44	5.86	7.07
95th-Percentile Queue Length [ft/ln]	161.79	210.47	210.27		86.09	146.53	176.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.68	41.22	41.22	0.00	0.00	0.00	0.00	4.12	0.00	0.00	4.95	6.38
Movement LOS	D	D	D					A			A	A
d_A, Approach Delay [s/veh]	39.92			0.00			3.23			5.31		
Approach LOS	D			A			A			A		
d_I, Intersection Delay [s/veh]	9.72											
Intersection LOS	A											
Intersection V/C	0.512											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.279	2.013	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	0	1222	1222
d_b, Bicycle Delay [s]	22.05	45.00	6.81	6.81
l_b,int, Bicycle LOS Score for Intersection	2.548	4.132	2.216	2.848
Bicycle LOS	B	D	B	C

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Mariposa Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	25.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.610

Intersection Setup

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	307.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Base Volume Input [veh/h]	73	48	65	122	170	177	140	1192	119	224	1878	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	44	0	0	54	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	48	65	122	170	177	140	1236	119	224	1932	98
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	13	17	32	45	47	37	325	31	59	508	26
Total Analysis Volume [veh/h]	77	51	68	128	179	186	147	1301	125	236	2034	103
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	36	0	5	36	0	5	15	0	5	36	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	94	40	0	94	40	0	10	19	0	31	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	0	0	31	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29	29	29	10	35	35	15	40	40
g / C, Green / Cycle	0.32	0.32	0.32	0.32	0.11	0.39	0.39	0.16	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.08	0.07	0.10	0.21	0.09	0.21	0.21	0.14	0.31	0.31
s, saturation flow rate [veh/h]	1017	1699	1273	1716	1687	5094	1764	1687	5094	1811
c, Capacity [veh/h]	178	537	376	543	179	1971	682	276	2264	805
d1, Uniform Delay [s]	39.75	22.62	29.44	26.72	39.40	21.35	21.37	36.60	20.11	20.13
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.65	0.21	0.53	1.50	9.01	1.05	3.03	7.47	1.80	4.97
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.22	0.34	0.67	0.82	0.54	0.54	0.86	0.70	0.70
d, Delay for Lane Group [s/veh]	41.40	22.83	29.97	28.22	48.41	22.41	24.40	44.07	21.91	25.09
Lane Group LOS	D	C	C	C	D	C	C	D	C	C
Critical Lane Group	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.72	1.85	2.37	6.81	3.58	5.74	6.35	5.52	8.75	10.07
50th-Percentile Queue Length [ft/ln]	43.06	46.19	59.32	170.22	89.57	143.50	158.83	137.98	218.86	251.68
95th-Percentile Queue Length [veh/ln]	3.10	3.33	4.27	11.09	6.45	9.67	10.49	9.37	13.61	15.27
95th-Percentile Queue Length [ft/ln]	77.51	83.14	106.77	277.21	161.22	241.73	262.17	234.30	340.17	381.77

Movement, Approach, & Intersection Results

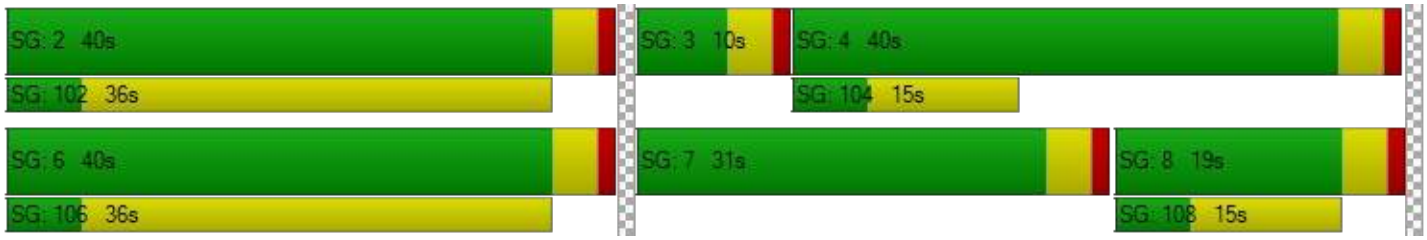
d_M, Delay for Movement [s/veh]	41.40	22.83	22.83	29.97	28.22	28.22	48.41	22.78	24.40	44.07	22.63	25.09
Movement LOS	D	C	C	C	C	C	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	30.13			28.68			25.30			24.87		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	25.64											
Intersection LOS	C											
Intersection V/C	0.610											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.181	2.200	3.380	3.452
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	800	333	800
d_b, Bicycle Delay [s]	16.20	16.20	31.25	16.20
l_b,int, Bicycle LOS Score for Intersection	1.883	2.373	2.208	2.538
Bicycle LOS	A	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Mountain Vista Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	14.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.590

Intersection Setup

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	330.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Base Volume Input [veh/h]	14	0	19	106	3	33	27	1345	8	61	2224	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	44	0	0	54	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	0	19	106	3	33	27	1389	8	61	2278	99
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	5	28	1	9	7	366	2	16	599	26
Total Analysis Volume [veh/h]	15	0	20	112	3	35	28	1462	8	64	2398	104
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	10	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	10	0	10	0	6	10	0	5	10	0
Amber [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	40	40	0	47	0	10	33	0	10	33	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	31	0	38	0	0	24	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No	No		No		No	No		No	No	
Maximum Recall		No	No		No		No	No		No	No	
Pedestrian Recall		No	No		No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	L	C	C	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	7	7	18	10	10	3	90	90	7	94	94
g / C, Green / Cycle	0.06	0.06	0.06	0.14	0.08	0.08	0.02	0.69	0.69	0.05	0.72	0.72
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.01	0.05	0.05	0.01	0.23	0.23	0.04	0.52	0.07
s, saturation flow rate [veh/h]	1518	1603	1683	2532	1518	1521	2785	4584	1677	1518	4584	1431
c, Capacity [veh/h]	84	89	94	352	117	117	68	3170	1160	80	3299	1030
d1, Uniform Delay [s]	58.26	58.24	0.00	48.56	58.20	58.28	62.48	8.08	8.08	60.89	10.71	5.51
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.45	0.40	0.00	0.07	5.53	5.88	3.90	0.29	0.80	16.38	1.43	0.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.09	0.08	0.00	0.06	0.63	0.65	0.41	0.34	0.34	0.80	0.73	0.10
d, Delay for Lane Group [s/veh]	58.71	58.64	0.00	48.62	63.74	64.16	66.39	8.38	8.88	77.27	12.14	5.70
Lane Group LOS	E	E	A	D	E	E	E	A	A	E	B	A
Critical Lane Group	No	No	No	Yes	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.25	0.25	0.00	0.29	2.55	2.63	0.49	3.95	4.50	2.46	12.54	0.87
50th-Percentile Queue Length [ft/ln]	6.15	6.13	0.00	7.19	63.75	65.67	12.36	98.71	112.41	61.43	313.46	21.65
95th-Percentile Queue Length [veh/ln]	0.44	0.44	0.00	0.52	4.59	4.73	0.89	7.11	7.97	4.42	18.35	1.56
95th-Percentile Queue Length [ft/ln]	11.06	11.03	0.00	12.94	114.74	118.20	22.25	177.67	199.35	110.57	458.64	38.96

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	58.67	29.32	48.62	63.88	64.16	64.16	66.39	8.51	8.88	77.27	12.14	5.70
Movement LOS	E	C	D	E	E	E	E	A	A	E	B	A
d_A, Approach Delay [s/veh]	52.93			63.95			9.59			13.50		
Approach LOS	D			E			A			B		
d_I, Intersection Delay [s/veh]	14.23											
Intersection LOS	B											
Intersection V/C	0.590											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.628	2.219	3.370	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	662	446	446
d_b, Bicycle Delay [s]	33.98	29.11	39.23	39.23
l_b,int, Bicycle LOS Score for Intersection	1.588	1.807	2.178	2.971
Bicycle LOS	A	A	B	C

Sequence

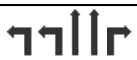
Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Escondido Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	30.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.724

Intersection Setup

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	661.02
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	3
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	160.47
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Base Volume Input [veh/h]	693	15	338	3	2	14	12	996	447	331	1535	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	0	0	0	0	0	30	14	0	36	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	711	15	338	3	2	14	12	1026	461	331	1571	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	187	4	89	1	1	4	3	270	121	87	413	2
Total Analysis Volume [veh/h]	748	16	356	3	2	15	13	1080	485	348	1654	8
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	0	3	8	8	7	4	0
Auxiliary Signal Groups			6,7						1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	10	5	10	0
Maximum Green [s]	5	10	10	6	10	0	6	10	10	6	10	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	47	70	70	10	33	0	10	30	30	10	30	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	5	0	5	0
Pedestrian Clearance [s]	0	27	27	0	24	0	0	21	21	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No		No	No	No	No	No	
Maximum Recall	No	No	No	No	No		No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	37	62	0	4	2	46	83	21	65	65
g / C, Green / Cycle	0.28	0.31	0.52	0.00	0.04	0.01	0.38	0.69	0.17	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.24	0.01	0.22	0.00	0.01	0.01	0.21	0.31	0.11	0.46	0.01
s, saturation flow rate [veh/h]	3095	1870	1589	1687	1618	1687	5094	1589	3095	3560	1589
c, Capacity [veh/h]	856	578	819	7	60	25	1938	1097	535	1917	856
d1, Uniform Delay [s]	41.40	28.87	18.15	59.61	56.25	58.69	29.23	8.28	46.26	23.88	12.85
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.35	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.99	0.02	0.36	36.57	2.58	15.79	1.16	0.92	1.34	5.43	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.03	0.43	0.43	0.29	0.52	0.56	0.44	0.65	0.86	0.01
d, Delay for Lane Group [s/veh]	44.39	28.89	18.52	96.18	58.83	74.48	30.39	9.19	47.61	29.31	12.87
Lane Group LOS	D	C	B	F	E	E	C	A	D	C	B
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	10.83	0.33	6.17	0.16	0.54	0.50	8.33	5.47	4.94	20.73	0.11
50th-Percentile Queue Length [ft/ln]	270.64	8.21	154.21	4.05	13.62	12.55	208.15	136.74	123.44	518.26	2.63
95th-Percentile Queue Length [veh/ln]	16.22	0.59	10.24	0.29	0.98	0.90	13.06	9.31	8.58	28.20	0.19
95th-Percentile Queue Length [ft/ln]	405.55	14.77	256.04	7.30	24.52	22.59	326.46	232.63	214.55	704.94	4.73

Movement, Approach, & Intersection Results

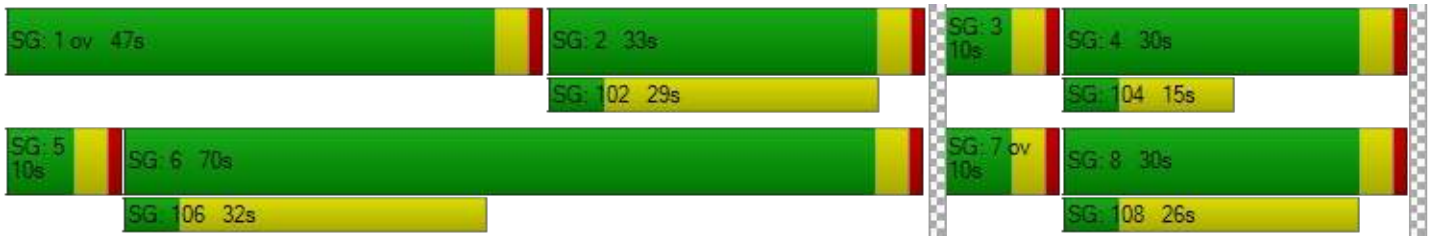
d_M, Delay for Movement [s/veh]	44.39	28.89	18.52	96.18	58.83	58.83	74.48	30.39	9.19	47.61	29.31	12.87
Movement LOS	D	C	B	F	E	E	E	C	A	D	C	B
d_A, Approach Delay [s/veh]	35.95			64.43			24.24			32.41		
Approach LOS	D			E			C			C		
d_I, Intersection Delay [s/veh]	30.66											
Intersection LOS	C											
Intersection V/C	0.724											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.786	1.974	3.228	3.318
Crosswalk LOS	C	A	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1100	483	433	433
d_b, Bicycle Delay [s]	12.15	34.50	36.82	36.82
l_b,int, Bicycle LOS Score for Intersection	3.408	1.593	2.428	3.218
Bicycle LOS	C	A	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Topaz Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	34.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.723

Intersection Setup

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	1279.32	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Base Volume Input [veh/h]	207	73	54	123	81	124	64	1134	99	35	1529	126
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	0	0	0	0	9	8	14	8	0	18	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	216	73	54	123	81	133	72	1148	107	35	1547	126
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	19	14	32	21	35	19	302	28	9	407	33
Total Analysis Volume [veh/h]	227	77	57	129	85	140	76	1208	113	37	1628	133
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	6	10	0	9	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	33	0	10	47	0	10	47	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29	29	29	5	46	46	3	44	44
g / C, Green / Cycle	0.32	0.32	0.32	0.32	0.06	0.51	0.51	0.03	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.20	0.08	0.10	0.13	0.05	0.34	0.07	0.02	0.47	0.48
s, saturation flow rate [veh/h]	1156	1739	1255	1685	1687	3560	1589	1687	1870	1821
c, Capacity [veh/h]	307	560	386	542	97	1813	809	60	912	888
d1, Uniform Delay [s]	36.18	22.42	28.70	23.88	41.88	16.41	11.67	42.79	22.41	22.80
k, delay calibration	0.16	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.22	0.22	0.51	0.51	13.31	1.96	0.36	9.83	23.27	27.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.24	0.33	0.41	0.79	0.67	0.14	0.62	0.97	0.99
d, Delay for Lane Group [s/veh]	41.40	22.64	29.21	24.39	55.19	18.36	12.03	52.62	45.69	50.24
Lane Group LOS	D	C	C	C	E	B	B	D	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.31	2.08	2.36	3.73	2.00	9.05	1.22	0.97	22.53	23.56
50th-Percentile Queue Length [ft/ln]	132.64	51.90	58.95	93.22	50.10	226.34	30.51	24.20	563.18	589.11
95th-Percentile Queue Length [veh/ln]	9.08	3.74	4.24	6.71	3.61	13.99	2.20	1.74	30.31	31.53
95th-Percentile Queue Length [ft/ln]	227.07	93.42	106.12	167.79	90.17	349.70	54.91	43.56	757.78	788.14

Movement, Approach, & Intersection Results

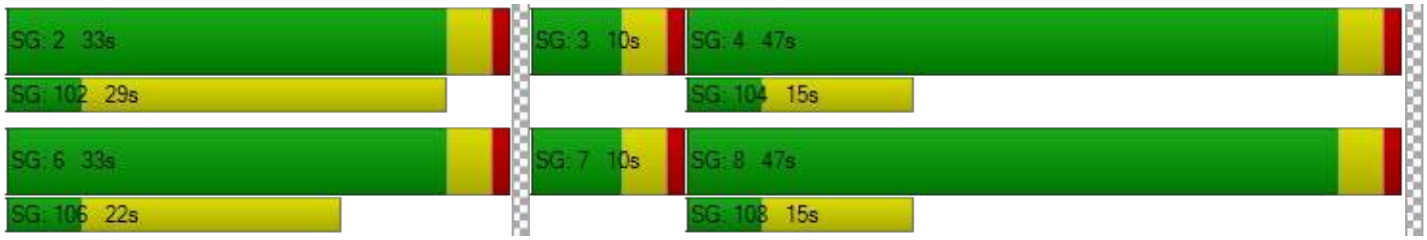
d_M, Delay for Movement [s/veh]	41.40	22.64	22.64	29.21	24.39	24.39	55.19	18.36	12.03	52.62	47.77	50.24
Movement LOS	D	C	C	C	C	C	E	B	B	D	D	D
d_A, Approach Delay [s/veh]	34.44			26.15			19.86			48.05		
Approach LOS	C			C			B			D		
d_I, Intersection Delay [s/veh]	34.74											
Intersection LOS	C											
Intersection V/C	0.723											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.278	2.150	3.391	3.157
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	644	956	956
d_b, Bicycle Delay [s]	20.67	20.67	12.27	12.27
l_b,int, Bicycle LOS Score for Intersection	2.155	2.144	2.712	3.043
Bicycle LOS	B	B	B	C

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 101: Keypointe Dr at South Fuel Entrance Dwy

Control Type:	Two-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Keypointe Dr		Keypointe Dr		South Fuel Entrance Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Keypointe Dr		Keypointe Dr		South Fuel Entrance Dwy	
Base Volume Input [veh/h]	182	0	0	365	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	97	64	9	131	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	18	73	0	46	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	297	137	9	542	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	36	2	143	0	0
Total Analysis Volume [veh/h]	313	144	9	571	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	8.28	0.00	0.00	0.00
Movement LOS	A	A	A	A		
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.38	0.19	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.13		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.07					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 102: Amargosa Rd at West Retail Dwy/West Fuel Dwy

Control Type:	Signalized	Delay (sec / veh):	11.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.276

Intersection Setup

Name	West Fuel Exit Dwy			West Retail Dwy			Amargosa Rd			Amargosa Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	West Fuel Exit Dwy			West Retail Dwy			Amargosa Rd			Amargosa Rd		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	356	0	0	407	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	83	0	5	5	0	37	61	17	19	0	20	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	91	0	0	0	0	0	0	0	18	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	174	0	5	5	0	37	61	373	37	0	427	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	0	1	1	0	10	16	98	10	0	112	0
Total Analysis Volume [veh/h]	183	0	5	5	0	39	64	393	39	0	449	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	0	10	0
Maximum Green [s]	0	12	0	0	10	0	28	56	0	0	24	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	32	0	0	14	0	64	14	0	0	14	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	5	5	33	33	33	33	33
g / C, Green / Cycle	0.16	0.16	0.16	0.09	0.09	0.55	0.55	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.11	0.00	0.00	0.00	0.03	0.08	0.13	0.13	0.13	0.13
s, saturation flow rate [veh/h]	1603	1683	1355	1603	1355	847	1683	1630	1683	1683
c, Capacity [veh/h]	259	272	219	140	118	488	927	898	927	927
d1, Uniform Delay [s]	23.79	21.08	21.16	25.07	25.73	10.37	6.95	6.96	6.98	6.98
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.50	0.00	0.04	0.10	1.61	0.56	0.60	0.62	0.62	0.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.71	0.00	0.02	0.04	0.33	0.13	0.24	0.24	0.24	0.24
d, Delay for Lane Group [s/veh]	27.30	21.08	21.20	25.18	27.34	10.93	7.55	7.58	7.60	7.60
Lane Group LOS	C	C	C	C	C	B	A	A	A	A
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.55	0.00	0.06	0.07	0.55	0.53	1.30	1.28	1.34	1.34
50th-Percentile Queue Length [ft/ln]	63.66	0.00	1.46	1.65	13.70	13.16	32.58	31.97	33.61	33.61
95th-Percentile Queue Length [veh/ln]	4.58	0.00	0.10	0.12	0.99	0.95	2.35	2.30	2.42	2.42
95th-Percentile Queue Length [ft/ln]	114.60	0.00	2.62	2.96	24.67	23.68	58.65	57.54	60.50	60.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.30	21.08	21.20	25.18	26.26	27.34	10.93	7.56	7.58	0.00	7.60	7.60
Movement LOS	C	C	C	C	C	C	B	A	A		A	A
d_A, Approach Delay [s/veh]	27.13			27.10			8.00			7.60		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	11.62											
Intersection LOS	B											
Intersection V/C	0.276											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	933	333	333	333
d_b, Bicycle Delay [s]	8.53	20.83	20.83	20.83
l_b,int, Bicycle LOS Score for Intersection	1.715	1.596	1.969	1.930
Bicycle LOS	A	A	A	A

Sequence

Ring 1	-	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 103: Amargosa Rd at East Retail Dwy/East Fuel Exit Dwy

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	East Fuel Exit Dwy			East Retail Dwy			Amargosa Rd			Amargosa Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	East Fuel Exit Dwy			East Retail Dwy			Amargosa Rd			Amargosa Rd		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	356	0	0	407	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	5	0	0	11	17	10	0	0	9	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	5	0	0	11	17	366	0	0	416	9
Peak Hour Factor	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	0	0	3	4	96	0	0	109	2
Total Analysis Volume [veh/h]	0	0	5	0	0	12	18	385	0	0	438	9
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	9.44	0.00	0.00	9.66	8.30	0.00	0.00	0.00	0.00	0.00
Movement LOS			A			A	A	A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.46	0.00	0.00	1.16	1.24	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.44			9.66			0.37			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.36											
Intersection LOS	A											

Hesperia Big Box Retail and Fuel Station

Vistro File: K:\...\Hesperia Big Box Retail and Fuel Station_PM.vistro

Scenario 5 HY CUM WP PM

Report File: K:\...\5. HY WP PM.pdf

3/12/2025

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Keypointe Dr at Amargosa Rd	Two-way stop	HCM 7th Edition	NB Left	1.354	633.6	F
2	US-395 at Phelan Rd/Main St	Signalized	HCM 7th Edition	SB Left	1.489	287.3	F
3	Mesa Linda St at Main St	Signalized	HCM 7th Edition	EB Left	0.440	14.1	B
4	Cataba Rd at Main St	Signalized	HCM 7th Edition	EB Left	0.539	26.8	C
5	Keypointe Dr at Main St	Signalized	HCM 7th Edition	EB Left	1.076	85.7	F
6	I-15 SB Ramps at Main St	Signalized	HCM 7th Edition	SB Right	0.674	15.1	B
7	I-15 NB Ramps at Main St	Signalized	HCM 7th Edition	NB Left	0.759	19.9	B
8	Mariposa Rd at Main St	Signalized	HCM 7th Edition	WB Left	0.681	34.2	C
9	Mountain Vista Ave at Main St	Signalized	HCM 7th Edition	WB Left	0.535	17.0	B
10	Escondido Ave at Main St	Signalized	HCM 7th Edition	NB Left	0.869	52.5	D
11	Topaz Ave at Main St	Signalized	HCM 7th Edition	WB Left	0.703	24.2	C
101	Keypointe Dr at South Fuel Entrance Dwy	Two-way stop	HCM 7th Edition	SB Left	0.018	10.1	B
102	Amargosa Rd at West Retail Dwy/West Fuel Dwy	Signalized	HCM 7th Edition	EB Left	0.610	20.6	C
103	Amargosa Rd at East Retail Dwy/East Fuel Exit Dwy	Two-way stop	HCM 7th Edition	SB Right	0.085	10.5	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Keypointe Dr at Amargosa Rd

Control Type:	Two-way stop	Delay (sec / veh):	633.6
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.354

Intersection Setup

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	1	0	1
Exit Pocket Length [ft]	0.00	100.00	0.00	49.21	0.00	477.13
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Base Volume Input [veh/h]	24	396	141	27	313	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	203	0	0	312	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	101	0	0	197	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	700	141	27	822	180
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	184	37	7	216	47
Total Analysis Volume [veh/h]	25	737	148	28	865	189
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.35	0.77	0.00	0.00	0.62	0.00
d_M, Delay for Movement [s/veh]	633.60	20.37	0.00	0.00	10.12	0.00
Movement LOS	F	C	A	A	B	A
95th-Percentile Queue Length [veh/ln]	3.50	7.92	0.00	0.00	3.35	1.67
95th-Percentile Queue Length [ft/ln]	87.45	198.02	0.00	0.00	83.67	41.83
d_A, Approach Delay [s/veh]	40.49		0.00		8.31	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	19.88					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 2: US-395 at Phelan Rd/Main St

Control Type:	Signalized	Delay (sec / veh):	287.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.489

Intersection Setup

Name	US-395			US-395			Phelan Rd			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	US-395			US-395			Phelan Rd			Main St		
Base Volume Input [veh/h]	293	1764	129	623	1277	117	44	705	56	52	1011	554
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	32	0	0	0	32	0	0	33	33
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	293	1764	129	655	1277	117	44	737	56	52	1044	587
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	464	34	172	336	31	12	194	15	14	275	154
Total Analysis Volume [veh/h]	308	1857	136	689	1344	123	46	776	59	55	1099	618
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	16	28	0	16	28	0	15	12	0	17	15	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	30	0	23	38	0	10	16	0	21	27	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	26	26	19	34	34	3	25	25	4	26	26
g / C, Green / Cycle	0.12	0.29	0.29	0.21	0.38	0.38	0.04	0.28	0.28	0.04	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.18	0.53	0.55	0.41	0.39	0.40	0.03	0.23	0.23	0.03	0.47	0.51
s, saturation flow rate [veh/h]	1687	1870	1826	1687	1870	1816	1687	1870	1824	1687	1870	1655
c, Capacity [veh/h]	206	540	528	356	706	686	64	523	510	72	531	470
d1, Uniform Delay [s]	39.50	32.00	32.00	35.50	28.00	28.00	42.80	30.18	30.18	42.63	32.22	32.22
k, delay calibration	0.43	0.50	0.50	0.50	0.48	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	242.96	387.23	407.20	430.68	43.67	54.31	13.62	12.67	12.97	15.30	300.76	363.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.49	1.84	1.89	1.93	1.04	1.07	0.71	0.81	0.81	0.76	1.65	1.79
d, Delay for Lane Group [s/veh]	282.46	419.23	439.20	466.18	71.67	82.31	56.42	42.85	43.15	57.93	332.98	395.41
Lane Group LOS	F	F	F	F	F	F	E	D	D	E	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	18.40	69.42	70.72	50.21	22.96	24.32	1.24	10.09	9.89	1.50	55.51	57.29
50th-Percentile Queue Length [ft/ln]	459.88	1735.54	1767.89	1255.37	573.90	608.08	31.12	252.32	247.21	37.59	1387.77	1432.25
95th-Percentile Queue Length [veh/ln]	29.33	108.47	110.86	79.01	31.64	33.95	2.24	15.30	15.05	2.71	85.74	89.98
95th-Percentile Queue Length [ft/ln]	733.14	2711.80	2771.59	1975.22	791.09	848.71	56.01	382.58	376.14	67.65	2143.47	2249.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	282.46	428.48	439.20	466.18	76.50	82.31	56.42	42.98	43.15	57.93	345.63	395.41
Movement LOS	F	F	F	F	E	F	E	D	D	E	F	F
d_A, Approach Delay [s/veh]	409.57			201.37			43.70			354.07		
Approach LOS	F			F			D			F		
d_I, Intersection Delay [s/veh]	287.27											
Intersection LOS	F											
Intersection V/C	1.489											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	756	267	511
d_b, Bicycle Delay [s]	22.76	17.42	33.80	24.94
l_b,int, Bicycle LOS Score for Intersection	3.458	3.338	2.286	3.022
Bicycle LOS	C	C	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Mesa Linda St at Main St

Control Type:	Signalized	Delay (sec / veh):	14.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.440

Intersection Setup

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	460.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Mesa Linda St			Mesa Linda St			Main St			Main St		
Base Volume Input [veh/h]	45	3	129	24	1	5	22	1430	15	74	1520	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	64	0	0	66	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	3	129	24	1	5	22	1494	15	74	1586	46
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	1	34	6	0	1	6	393	4	19	417	12
Total Analysis Volume [veh/h]	47	3	136	25	1	5	23	1573	16	78	1669	48
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	38	0	0	20	0	10	10	0	9	15	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	42	0	0	14	0	10	14	0	20	24	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	5	5	2	53	53	5	56	56
g / C, Green / Cycle	0.11	0.11	0.06	0.06	0.02	0.59	0.59	0.06	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.03	0.09	0.01	0.00	0.01	0.29	0.29	0.05	0.32	0.32
s, saturation flow rate [veh/h]	1786	1589	1784	1589	1687	3560	1860	1687	3560	1843
c, Capacity [veh/h]	199	177	107	96	41	2103	1099	101	2230	1155
d1, Uniform Delay [s]	36.57	38.87	40.34	39.88	43.42	10.66	10.67	41.68	9.21	9.21
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.66	6.87	1.16	0.22	11.23	0.84	1.60	11.48	0.83	1.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.25	0.77	0.24	0.05	0.56	0.50	0.50	0.77	0.51	0.51
d, Delay for Lane Group [s/veh]	37.22	45.73	41.50	40.10	54.65	11.50	12.27	53.16	10.03	10.80
Lane Group LOS	D	D	D	D	D	B	B	D	B	B
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.03	3.22	0.58	0.11	0.63	5.65	6.14	2.01	5.59	6.04
50th-Percentile Queue Length [ft/ln]	25.79	80.38	14.46	2.73	15.76	141.34	153.54	50.24	139.77	151.03
95th-Percentile Queue Length [veh/ln]	1.86	5.79	1.04	0.20	1.13	9.55	10.21	3.62	9.47	10.07
95th-Percentile Queue Length [ft/ln]	46.42	144.68	26.03	4.92	28.36	238.83	255.14	90.43	236.71	251.81

Movement, Approach, & Intersection Results

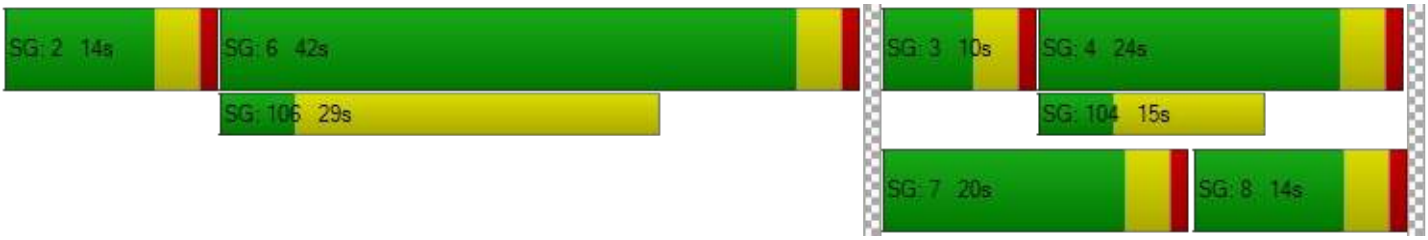
d_M, Delay for Movement [s/veh]	37.22	37.22	45.73	41.50	41.50	40.10	54.65	11.76	12.27	53.16	10.28	10.80
Movement LOS	D	D	D	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	43.45			41.27			12.38			12.16		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	14.11											
Intersection LOS	B											
Intersection V/C	0.440											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	36.45	0.00	36.45
l_p,int, Pedestrian LOS Score for Intersectio	0.000	1.976	0.000	3.087
Crosswalk LOS	F	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	844	222	222	444
d_b, Bicycle Delay [s]	15.02	35.56	35.56	27.22
l_b,int, Bicycle LOS Score for Intersection	1.867	1.611	2.446	2.547
Bicycle LOS	A	A	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Cataba Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	26.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.539

Intersection Setup

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	260.00	220.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Cataba Rd			Cataba Rd			Main St			Main St		
Base Volume Input [veh/h]	157	49	199	72	41	128	97	1201	153	180	1062	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	64	0	0	66	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	157	49	199	72	41	128	97	1265	153	180	1128	51
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	13	52	19	11	34	26	333	40	47	297	13
Total Analysis Volume [veh/h]	165	52	209	76	43	135	102	1332	161	189	1187	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	23	0	0	23	0	0	10	0	6	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	38	0	0	36	0	10	26	0	10	26	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	17	17	12	12	12	8	56	56	9	57	57
g / C, Green / Cycle	0.16	0.16	0.16	0.11	0.11	0.11	0.08	0.51	0.51	0.08	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.06	0.06	0.13	0.05	0.02	0.08	0.06	0.26	0.10	0.06	0.23	0.23
s, saturation flow rate [veh/h]	1687	1821	1589	1687	1870	1589	1687	5094	1589	3095	3560	1829
c, Capacity [veh/h]	263	284	248	181	200	170	128	2593	809	255	1836	943
d1, Uniform Delay [s]	41.75	41.75	45.10	45.92	44.89	47.93	50.01	17.96	14.75	49.32	16.76	16.76
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.97	0.89	7.57	1.55	0.53	8.08	10.76	0.73	0.55	4.21	0.79	1.53
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.40	0.84	0.42	0.21	0.79	0.80	0.51	0.20	0.74	0.45	0.45
d, Delay for Lane Group [s/veh]	42.72	42.65	52.67	47.48	45.42	56.00	60.77	18.69	15.31	53.54	17.55	18.29
Lane Group LOS	D	D	D	D	D	E	E	B	B	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.62	2.82	6.03	2.02	1.10	3.98	3.13	7.45	2.29	2.68	6.54	6.91
50th-Percentile Queue Length [ft/ln]	65.49	70.52	150.85	50.52	27.60	99.58	78.36	186.30	57.31	67.01	163.49	172.80
95th-Percentile Queue Length [veh/ln]	4.72	5.08	10.06	3.64	1.99	7.17	5.64	11.93	4.13	4.83	10.73	11.22
95th-Percentile Queue Length [ft/ln]	117.88	126.93	251.57	90.94	49.68	179.25	141.04	298.22	103.15	120.63	268.34	280.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.69	42.65	52.67	47.48	45.42	56.00	60.77	18.69	15.31	53.54	17.78	18.29
Movement LOS	D	D	D	D	D	E	E	B	B	D	B	B
d_A, Approach Delay [s/veh]	47.58			51.66			21.04			22.53		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	26.76											
Intersection LOS	C											
Intersection V/C	0.539											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	46.37	46.37	46.37	46.37
l_p,int, Pedestrian LOS Score for Intersectio	2.471	2.401	3.112	3.108
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	618	582	400	400
d_b, Bicycle Delay [s]	26.25	27.65	35.20	35.20
l_b,int, Bicycle LOS Score for Intersection	2.263	1.979	2.437	2.346
Bicycle LOS	B	A	B	B

Sequence

Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Keypointe Dr at Main St

Control Type:	Signalized	Delay (sec / veh):	85.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.076

Intersection Setup

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	741.32	180.00	100.00	366.47	192.10	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Base Volume Input [veh/h]	34	56	226	250	83	20	70	1392	29	280	1289	234
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	234	0	66	64	0	0	0	0	224
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	99	0	98	96	-96	0	0	-94	94
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	56	226	583	83	184	230	1296	29	280	1195	552
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	15	59	153	22	48	61	341	8	74	314	145
Total Analysis Volume [veh/h]	36	59	238	614	87	194	242	1364	31	295	1258	581
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	36	0	0	36	0	10	26	0	28	44	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	32	32	32	32	32	6	28	28	18	40	40
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.36	0.07	0.31	0.31	0.20	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.03	0.03	0.15	0.57	0.17	0.14	0.27	0.02	0.17	0.35	0.37
s, saturation flow rate [veh/h]	1098	1870	1589	1082	1667	1687	5094	1589	1687	3560	1589
c, Capacity [veh/h]	304	665	565	418	593	112	1592	497	335	1582	706
d1, Uniform Delay [s]	29.46	19.30	21.98	33.64	22.48	42.00	29.04	21.69	35.03	21.48	21.89
k, delay calibration	0.11	0.11	0.11	0.50	0.11	0.50	0.50	0.50	0.19	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.17	0.06	0.50	223.86	0.59	546.52	6.17	0.24	12.28	4.22	10.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.12	0.09	0.42	1.47	0.47	2.15	0.86	0.06	0.88	0.79	0.82
d, Delay for Lane Group [s/veh]	29.63	19.35	22.48	257.50	23.07	588.52	35.22	21.93	47.31	25.70	32.33
Lane Group LOS	C	B	C	F	C	F	D	C	D	C	C
Critical Lane Group	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.65	0.82	3.78	35.23	4.57	19.54	9.77	0.48	7.28	11.63	12.13
50th-Percentile Queue Length [ft/ln]	16.19	20.41	94.52	880.75	114.19	488.50	244.35	12.12	182.11	290.77	303.14
95th-Percentile Queue Length [veh/ln]	1.17	1.47	6.81	55.27	8.07	31.65	14.90	0.87	11.71	17.22	17.84
95th-Percentile Queue Length [ft/ln]	29.14	36.73	170.14	1381.63	201.81	791.29	372.53	21.81	292.77	430.60	445.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.63	19.35	22.48	257.50	23.07	23.07	588.52	35.22	21.93	47.31	25.70	32.33
Movement LOS	C	B	C	F	C	C	F	D	C	D	C	C
d_A, Approach Delay [s/veh]	22.70			183.90			116.76			30.49		
Approach LOS	C			F			F			C		
d_I, Intersection Delay [s/veh]	85.69											
Intersection LOS	F											
Intersection V/C	1.076											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.447	2.519	3.159	4.075
Crosswalk LOS	B	B	C	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	711	489	889
d_b, Bicycle Delay [s]	18.69	18.69	25.69	13.89
l_b,int, Bicycle LOS Score for Intersection	2.109	3.036	2.460	2.733
Bicycle LOS	B	C	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: I-15 SB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	15.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.674

Intersection Setup

Name							Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	639.00	100.00	100.00	200.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name							Main St			Main St		
Base Volume Input [veh/h]	0	0	0	502	0	343	0	1790	203	0	1446	369
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	64	0	167	67	0	160	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	502	0	407	0	1957	270	0	1606	369
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	132	0	107	0	515	71	0	423	97
Total Analysis Volume [veh/h]	0	0	0	528	0	428	0	2060	284	0	1691	388
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	0	0	0	7	0	4	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	5	0	5	0	10	0	0	10	0
Maximum Green [s]	0	0	0	32	0	32	0	17	0	0	17	0
Amber [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	36	0	94	0	54	0	0	54	0
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	10	0	0	0	3	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk				No				No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall				No				No			No	
Maximum Recall				No				No			No	
Pedestrian Recall				No				No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	R	C	C
C, Cycle Length [s]		90	90	90	90
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		27	27	55	55
g / C, Green / Cycle		0.30	0.30	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate		0.17	0.27	0.40	0.33
s, saturation flow rate [veh/h]		3095	1589	5094	5094
c, Capacity [veh/h]		934	480	3104	3104
d1, Uniform Delay [s]		26.45	30.02	11.53	10.28
k, delay calibration		0.11	0.27	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.54	13.38	1.14	0.69
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.57	0.89	0.66	0.54
d, Delay for Lane Group [s/veh]		26.99	43.40	12.67	10.97
Lane Group LOS		C	D	B	B
Critical Lane Group		No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		4.71	10.32	8.25	6.00
50th-Percentile Queue Length [ft/ln]		117.80	258.11	206.20	149.90
95th-Percentile Queue Length [veh/ln]		8.27	15.59	12.96	10.01
95th-Percentile Queue Length [ft/ln]		206.80	389.85	323.94	250.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	26.99	0.00	43.40	0.00	12.67	0.00	0.00	10.97	0.00
Movement LOS				C		D		B			B	
d_A, Approach Delay [s/veh]	0.00			34.34			11.20			9.01		
Approach LOS	A			C			B			A		
d_I, Intersection Delay [s/veh]	15.11											
Intersection LOS	B											
Intersection V/C	0.674											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	711	1111	1111
d_b, Bicycle Delay [s]	45.00	18.69	8.89	8.89
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.693	2.490
Bicycle LOS	D	A	B	B

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: I-15 NB Ramps at Main St

Control Type:	Signalized	Delay (sec / veh):	19.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.759

Intersection Setup

Name	I-15 NB Ramps						Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	639.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	307.42
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	I-15 NB Ramps						Main St			Main St		
Base Volume Input [veh/h]	483	17	773	0	0	0	0	1919	320	0	1382	604
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	64	0	0	0	0	0	0	100	67	0	96	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	547	17	773	0	0	0	0	2019	387	0	1478	604
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	144	4	203	0	0	0	0	531	102	0	389	159
Total Analysis Volume [veh/h]	576	18	814	0	0	0	0	2125	407	0	1556	636
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	27	0	0	26	0	0	31	0	0	31	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	55	0	0	94	0	0	35	0	0	35	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No						No			No	
Maximum Recall		No						No			No	
Pedestrian Recall		No						No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R		C	C	R
C, Cycle Length [s]	90	90	90		90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	35	35	35		47	47	47
g / C, Green / Cycle	0.39	0.39	0.39		0.52	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.34	0.26	0.26		0.42	0.31	0.40
s, saturation flow rate [veh/h]	1687	1600	1589		5094	5094	1589
c, Capacity [veh/h]	654	620	616		2666	2666	832
d1, Uniform Delay [s]	25.62	22.80	22.85		17.54	14.72	17.04
k, delay calibration	0.17	0.11	0.11		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	6.20	1.27	1.30		2.58	0.94	6.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.67	0.68		0.80	0.58	0.76
d, Delay for Lane Group [s/veh]	31.82	24.07	24.15		20.12	15.66	23.65
Lane Group LOS	C	C	C		C	B	C
Critical Lane Group	Yes	No	No		Yes	No	No
50th-Percentile Queue Length [veh/ln]	12.00	7.21	7.23		11.60	6.97	11.09
50th-Percentile Queue Length [ft/ln]	300.09	180.24	180.75		289.90	174.16	277.21
95th-Percentile Queue Length [veh/ln]	17.69	11.61	11.64		17.18	11.30	16.55
95th-Percentile Queue Length [ft/ln]	442.14	290.33	290.99		429.51	282.38	413.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.82	24.07	24.11	0.00	0.00	0.00	0.00	20.12	0.00	0.00	15.66	23.65
Movement LOS	C	C	C					C			B	C
d_A, Approach Delay [s/veh]	27.26			0.00			17.02			17.98		
Approach LOS	C			A			B			B		
d_I, Intersection Delay [s/veh]	19.90											
Intersection LOS	B											
Intersection V/C	0.759											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.476	2.063	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1133	0	689	689
d_b, Bicycle Delay [s]	8.45	45.00	19.34	19.34
l_b,int, Bicycle LOS Score for Intersection	3.883	4.132	2.728	2.765
Bicycle LOS	D	D	B	C

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Mariposa Rd at Main St

Control Type:	Signalized	Delay (sec / veh):	34.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.681

Intersection Setup

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	307.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Mariposa Rd			Mariposa Rd			Main St			Main St		
Base Volume Input [veh/h]	104	139	111	190	107	240	324	2063	196	127	1421	167
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	100	0	0	96	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	104	139	111	190	107	240	324	2163	196	127	1517	167
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	37	29	50	28	63	85	569	52	33	399	44
Total Analysis Volume [veh/h]	109	146	117	200	113	253	341	2277	206	134	1597	176
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	36	0	5	36	0	5	15	0	27	36	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	94	40	0	94	40	0	31	38	0	12	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	0	0	31	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	31	31	31	31	20	38	38	9	27	27
g / C, Green / Cycle	0.34	0.34	0.34	0.34	0.23	0.42	0.42	0.10	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.11	0.15	0.18	0.22	0.20	0.36	0.36	0.08	0.26	0.26
s, saturation flow rate [veh/h]	1016	1734	1116	1667	1687	5094	1770	1687	5094	1750
c, Capacity [veh/h]	222	598	311	574	381	2163	752	164	1509	518
d1, Uniform Delay [s]	37.28	22.78	34.48	24.77	33.81	23.31	23.45	39.82	30.08	30.08
k, delay calibration	0.11	0.11	0.11	0.12	0.14	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.67	0.51	2.22	1.35	9.25	4.42	12.23	9.35	7.35	18.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.44	0.64	0.64	0.90	0.85	0.86	0.81	0.87	0.87
d, Delay for Lane Group [s/veh]	38.96	23.29	36.70	26.12	43.05	27.72	35.68	49.17	37.43	48.35
Lane Group LOS	D	C	D	C	D	C	D	D	D	D
Critical Lane Group	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.38	4.27	4.32	6.55	8.02	11.90	14.23	3.29	9.76	11.63
50th-Percentile Queue Length [ft/ln]	59.43	106.80	108.04	163.75	200.44	297.45	355.87	82.29	243.90	290.72
95th-Percentile Queue Length [veh/ln]	4.28	7.66	7.73	10.75	12.66	17.55	20.42	5.92	14.88	17.22
95th-Percentile Queue Length [ft/ln]	106.97	191.55	193.27	268.68	316.54	438.87	510.55	148.12	371.96	430.54

Movement, Approach, & Intersection Results

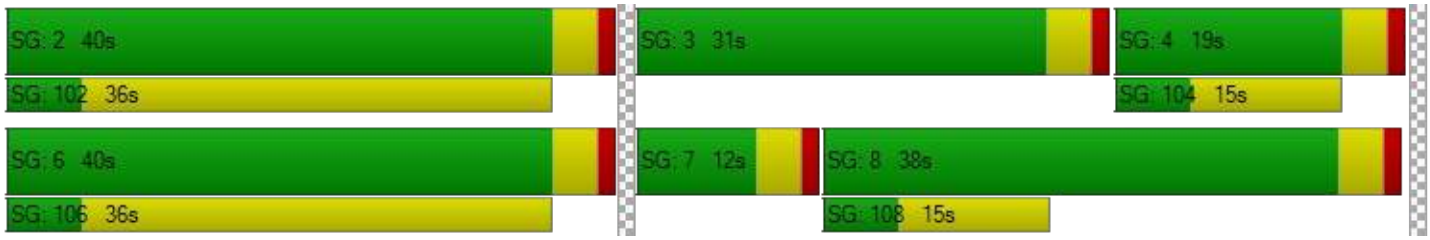
d_M, Delay for Movement [s/veh]	38.96	23.29	23.29	36.70	26.12	26.12	43.05	29.26	35.68	49.17	39.33	48.35
Movement LOS	D	C	C	D	C	C	D	C	D	D	D	D
d_A, Approach Delay [s/veh]	27.88			29.86			31.40			40.85		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	34.19											
Intersection LOS	C											
Intersection V/C	0.681											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.210	2.341	3.524	3.623
Crosswalk LOS	B	B	D	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	800	756	333
d_b, Bicycle Delay [s]	16.20	16.20	17.42	31.25
l_b,int, Bicycle LOS Score for Intersection	2.173	2.494	2.725	2.346
Bicycle LOS	B	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Mountain Vista Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	17.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.535

Intersection Setup

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	330.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Mountain Vista Ave			Mountain Vista Ave			Main St			Main St		
Base Volume Input [veh/h]	66	4	45	71	7	19	37	2329	31	92	1749	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	100	0	0	96	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	66	4	45	71	7	19	37	2429	31	92	1845	50
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	1	12	19	2	5	10	639	8	24	486	13
Total Analysis Volume [veh/h]	69	4	47	75	7	20	39	2557	33	97	1942	53
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	10	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	10	0	10	0	6	10	0	5	10	0
Amber [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	40	40	0	47	0	10	33	0	10	33	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	31	0	38	0	0	24	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No	No		No		No	No		No	No	
Maximum Recall		No	No		No		No	No		No	No	
Pedestrian Recall		No	No		No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	L	C	C	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	24	10	10	4	84	84	10	91	91
g / C, Green / Cycle	0.08	0.08	0.08	0.19	0.08	0.08	0.03	0.65	0.65	0.08	0.70	0.70
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.00	0.02	0.03	0.03	0.01	0.41	0.41	0.06	0.42	0.04
s, saturation flow rate [veh/h]	1518	1603	1683	2532	1518	1541	2785	4584	1669	1518	4584	1431
c, Capacity [veh/h]	116	122	128	469	115	116	81	2965	1079	119	3191	996
d1, Uniform Delay [s]	56.75	56.68	55.59	43.95	57.45	57.50	62.14	13.84	13.85	58.98	10.42	6.24
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.42	1.24	0.10	0.09	2.60	2.67	4.37	1.07	2.92	12.56	0.87	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.28	0.03	0.10	0.44	0.45	0.48	0.64	0.64	0.82	0.61	0.05
d, Delay for Lane Group [s/veh]	58.16	57.92	55.69	44.04	60.05	60.17	66.52	14.91	16.77	71.55	11.29	6.34
Lane Group LOS	E	E	E	D	E	E	E	B	B	E	B	A
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.12	1.12	0.13	0.64	1.66	1.73	0.69	10.94	12.52	3.56	9.33	0.47
50th-Percentile Queue Length [ft/ln]	28.04	27.92	3.14	16.04	41.52	43.20	17.14	273.44	313.00	89.12	233.18	11.81
95th-Percentile Queue Length [veh/ln]	2.02	2.01	0.23	1.15	2.99	3.11	1.23	16.36	18.32	6.42	14.34	0.85
95th-Percentile Queue Length [ft/ln]	50.47	50.26	5.66	28.86	74.73	77.75	30.85	409.03	458.08	160.41	358.40	21.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	58.04	55.69	44.04	60.09	60.17	60.17	66.52	15.39	16.77	71.55	11.29	6.34
Movement LOS	E	E	D	E	E	E	E	B	B	E	B	A
d_A, Approach Delay [s/veh]	52.48			60.11			16.17			13.96		
Approach LOS	D			E			B			B		
d_I, Intersection Delay [s/veh]	17.02											
Intersection LOS	B											
Intersection V/C	0.535											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.649	2.198	3.440	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	662	446	446
d_b, Bicycle Delay [s]	33.98	29.11	39.23	39.23
l_b,int, Bicycle LOS Score for Intersection	1.659	1.728	2.644	2.710
Bicycle LOS	A	A	B	B

Sequence

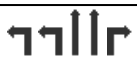
Ring 1	2	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Escondido Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	52.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.869

Intersection Setup

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	661.02
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	382.98
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Econdido Ave			Escondido Ave			Main St			Main St		
Base Volume Input [veh/h]	505	230	317	51	38	233	57	1706	621	424	1149	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	32	0	0	0	0	0	0	67	33	0	64	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	537	230	317	51	38	233	57	1773	654	424	1213	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	141	61	83	13	10	61	15	467	172	112	319	2
Total Analysis Volume [veh/h]	565	242	334	54	40	245	60	1866	688	446	1277	7
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	0	3	8	8	7	4	0
Auxiliary Signal Groups			6,7						1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	10	5	10	0
Maximum Green [s]	5	10	10	6	10	0	6	10	10	6	10	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	24	47	47	10	33	0	10	47	47	16	53	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	5	0	5	0
Pedestrian Clearance [s]	0	27	27	0	24	0	0	21	21	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No		No	No	No	No	No	
Maximum Recall	No	No	No	No	No		No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	38	60	5	23	5	43	67	18	56	56
g / C, Green / Cycle	0.17	0.32	0.50	0.04	0.19	0.05	0.36	0.56	0.15	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.18	0.13	0.21	0.03	0.18	0.04	0.37	0.43	0.14	0.36	0.00
s, saturation flow rate [veh/h]	3095	1870	1589	1687	1624	1687	5094	1589	3095	3560	1589
c, Capacity [veh/h]	516	595	795	68	312	76	1830	889	460	1647	735
d1, Uniform Delay [s]	50.00	32.02	18.97	57.07	47.49	56.73	38.44	20.55	50.82	27.01	17.40
k, delay calibration	0.11	0.11	0.14	0.11	0.25	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	50.35	0.45	0.47	18.14	20.00	16.25	26.10	6.51	13.67	3.64	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.10	0.41	0.42	0.79	0.91	0.79	1.02	0.77	0.97	0.78	0.01
d, Delay for Lane Group [s/veh]	100.35	32.46	19.44	75.22	67.49	72.97	64.54	27.06	64.49	30.64	17.42
Lane Group LOS	F	C	B	E	E	E	F	C	E	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	11.31	5.59	5.92	1.97	10.04	2.14	22.03	15.95	7.51	15.79	0.11
50th-Percentile Queue Length [ft/ln]	282.75	139.69	148.05	49.18	251.12	53.61	550.66	398.72	187.80	394.75	2.76
95th-Percentile Queue Length [veh/ln]	17.56	9.46	9.91	3.54	15.24	3.86	30.13	22.50	12.01	22.31	0.20
95th-Percentile Queue Length [ft/ln]	439.03	236.61	247.82	88.53	381.07	96.49	753.27	562.46	300.17	557.67	4.97

Movement, Approach, & Intersection Results

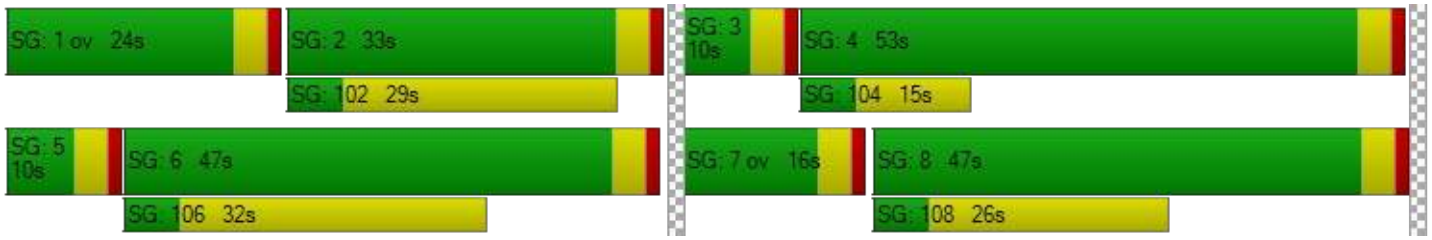
d_M, Delay for Movement [s/veh]	100.35	32.46	19.44	75.22	67.49	67.49	72.97	64.54	27.06	64.49	30.64	17.42
Movement LOS	F	C	B	E	E	E	E	F	C	E	C	B
d_A, Approach Delay [s/veh]	62.27			68.72			54.87			39.32		
Approach LOS	E			E			D			D		
d_I, Intersection Delay [s/veh]	52.51											
Intersection LOS	D											
Intersection V/C	0.869											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.844	2.166	3.314	3.226
Crosswalk LOS	C	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	717	483	717	817
d_b, Bicycle Delay [s]	24.70	34.50	24.70	21.00
l_b,int, Bicycle LOS Score for Intersection	3.442	2.119	2.997	2.987
Bicycle LOS	C	B	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Topaz Ave at Main St

Control Type:	Signalized	Delay (sec / veh):	24.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.703

Intersection Setup

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	1279.32	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Topaz Ave			Topaz Ave			Main St			Main St		
Base Volume Input [veh/h]	170	37	66	65	35	53	69	1709	225	57	1280	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	0	0	0	0	16	17	33	17	0	32	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	186	37	66	65	35	69	86	1742	242	57	1312	65
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	10	17	17	9	18	23	458	64	15	345	17
Total Analysis Volume [veh/h]	196	39	69	68	37	73	91	1834	255	60	1381	68
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	33	0	38	19	0	9	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	23	23	23	6	51	51	4	49	49
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.07	0.57	0.57	0.04	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.15	0.06	0.05	0.07	0.05	0.52	0.16	0.04	0.39	0.39
s, saturation flow rate [veh/h]	1283	1681	1285	1674	1687	3560	1589	1687	1870	1839
c, Capacity [veh/h]	304	427	306	425	118	2021	902	76	1014	998
d1, Uniform Delay [s]	36.20	26.76	32.28	26.80	41.12	17.35	10.02	42.55	15.44	15.48
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.29	0.31	0.36	0.32	9.95	7.41	0.78	16.45	4.37	4.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.25	0.22	0.26	0.77	0.91	0.28	0.79	0.72	0.72
d, Delay for Lane Group [s/veh]	38.49	27.07	32.64	27.12	51.07	24.76	10.80	59.00	19.81	20.01
Lane Group LOS	D	C	C	C	D	C	B	E	B	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.30	1.85	1.30	1.89	2.29	17.10	2.61	1.65	11.45	11.39
50th-Percentile Queue Length [ft/ln]	107.42	46.35	32.55	47.29	57.17	427.46	65.21	41.32	286.35	284.73
95th-Percentile Queue Length [veh/ln]	7.70	3.34	2.34	3.41	4.12	23.88	4.70	2.97	17.00	16.92
95th-Percentile Queue Length [ft/ln]	192.41	83.44	58.59	85.13	102.91	596.99	117.38	74.37	425.11	423.10

Movement, Approach, & Intersection Results

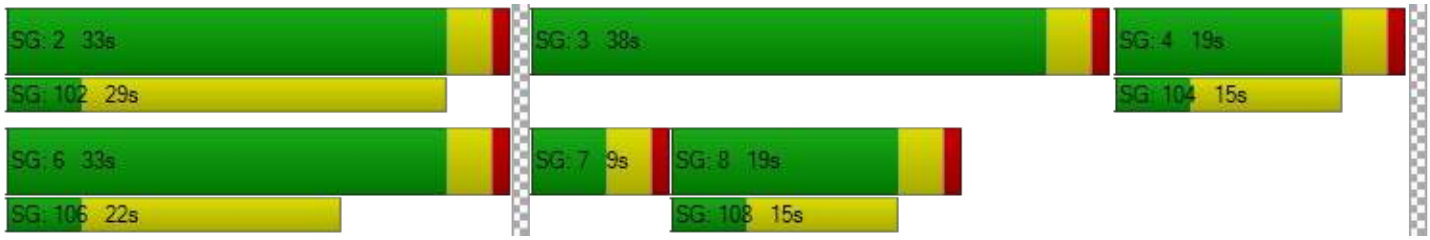
d_M, Delay for Movement [s/veh]	38.49	27.07	27.07	32.64	27.12	27.12	51.07	24.76	10.80	59.00	19.90	20.01
Movement LOS	D	C	C	C	C	C	D	C	B	E	B	C
d_A, Approach Delay [s/veh]	34.43			29.23			24.23			21.46		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	24.18											
Intersection LOS	C											
Intersection V/C	0.703											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersectio	2.155	2.064	3.408	3.077
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	644	333	333
d_b, Bicycle Delay [s]	20.67	20.67	31.25	31.25
l_b,int, Bicycle LOS Score for Intersection	2.061	1.853	3.358	2.805
Bicycle LOS	B	A	C	C

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 101: Keypointe Dr at South Fuel Entrance Dwy

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	Keypointe Dr		Keypointe Dr		South Fuel Entrance Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Keypointe Dr		Keypointe Dr		South Fuel Entrance Dwy	
Base Volume Input [veh/h]	431	0	0	327	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	203	85	12	300	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	101	89	0	197	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	735	174	12	824	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	193	46	3	217	0	0
Total Analysis Volume [veh/h]	774	183	13	867	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.02	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	10.05	0.00	0.00	0.00
Movement LOS	A	A	B	A		
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.55	0.27	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.15		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.07					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 102: Amargosa Rd at West Retail Dwy/West Fuel Dwy

Control Type:	Signalized	Delay (sec / veh):	20.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.610

Intersection Setup

Name	West Fuel Exit Dwy			West Retail Dwy			Amargosa Rd			Amargosa Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	West Fuel Exit Dwy			West Retail Dwy			Amargosa Rd			Amargosa Rd		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	500	0	0	524	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	111	0	6	21	0	148	139	39	25	0	53	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	111	0	0	0	0	69	63	16	22	0	17	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	222	0	6	21	0	217	202	555	47	0	594	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	0	2	6	0	57	53	146	12	0	156	0
Total Analysis Volume [veh/h]	234	0	6	22	0	228	213	584	49	0	625	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	0	10	0
Maximum Green [s]	0	10	0	0	19	0	13	49	0	0	32	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	14	0	0	22	0	64	24	0	0	24	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	11	11	12	12	26	26	26	26	26
g / C, Green / Cycle	0.18	0.18	0.18	0.20	0.20	0.43	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.15	0.00	0.00	0.01	0.17	0.30	0.19	0.19	0.19	0.19
s, saturation flow rate [veh/h]	1603	1683	1355	1603	1355	720	1683	1638	1683	1683
c, Capacity [veh/h]	280	294	237	322	272	297	714	695	714	714
d1, Uniform Delay [s]	23.94	20.44	20.53	19.42	23.03	23.88	12.27	12.28	12.20	12.20
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.54	0.00	0.04	0.09	6.72	13.89	2.04	2.09	1.94	1.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.00	0.03	0.07	0.84	0.72	0.45	0.45	0.44	0.44
d, Delay for Lane Group [s/veh]	30.47	20.44	20.58	19.51	29.75	37.77	14.31	14.37	14.14	14.14
Lane Group LOS	C	C	C	B	C	D	B	B	B	B
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	3.48	0.00	0.07	0.24	3.38	4.07	3.05	2.99	2.95	2.95
50th-Percentile Queue Length [ft/ln]	87.12	0.00	1.71	6.03	84.40	101.77	76.37	74.63	73.82	73.82
95th-Percentile Queue Length [veh/ln]	6.27	0.00	0.12	0.43	6.08	7.33	5.50	5.37	5.32	5.32
95th-Percentile Queue Length [ft/ln]	156.82	0.00	3.07	10.86	151.92	183.19	137.47	134.33	132.88	132.88

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.47	20.44	20.58	19.51	24.63	29.75	37.77	14.34	14.37	0.00	14.14	14.14
Movement LOS	C	C	C	B	C	C	D	B	B		B	B
d_A, Approach Delay [s/veh]	30.23			28.85			20.24			14.14		
Approach LOS	C			C			C			B		
d_I, Intersection Delay [s/veh]	20.62											
Intersection LOS	C											
Intersection V/C	0.610											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	333	600	667	667
d_b, Bicycle Delay [s]	20.83	14.70	13.33	13.33
l_b,int, Bicycle LOS Score for Intersection	1.758	1.766	2.258	2.075
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 103: Amargosa Rd at East Retail Dwy/East Fuel Exit Dwy

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.085

Intersection Setup

Name	East Fuel Exit Dwy			East Retail Dwy			Amargosa Rd			Amargosa Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	East Fuel Exit Dwy			East Retail Dwy			Amargosa Rd			Amargosa Rd		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	500	0	0	524	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	6	0	0	41	39	27	0	0	12	20
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	17	16	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	6	0	0	58	55	527	0	0	536	20
Peak Hour Factor	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	2	0	0	15	14	139	0	0	141	5
Total Analysis Volume [veh/h]	0	0	6	0	0	61	58	555	0	0	564	21
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.09	0.06	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	10.04	0.00	0.00	10.50	8.88	0.00	0.00	0.00	0.00	0.00
Movement LOS			B			B	A	A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.00	0.00	0.28	0.19	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.63	0.00	0.00	6.97	4.68	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.04			10.50			0.84			0.00		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	0.96											
Intersection LOS	B											

APPENDIX D-6

INTERSECTION ANALYSIS
WORKSHEETS –
RECOMMENDED IMPROVEMENTS

Option 1: Install traffic signal, modify WB approach, and add NBR overlap phasing.

Number	1					
Intersection	Keypointe Dr at Amargosa Rd					
Control Type	Signalized					
Analysis Method	HCM 7th Edition					
Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Base Volume Input [veh/h]	5	142	77	5	108	49
Total Analysis Volume [veh/h]	6	361	149	6	433	74

Intersection Settings

Cycle Length [s]	60					
Active Pattern	Pattern 1					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Semi-actuated					
Lost time [s]	0.00					
Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	3	3	2	0	1	6
Auxiliary Signal Groups		1,3				
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	10	0	5	10
Maximum Green [s]	30	30	22	0	5	22
Amber [s]	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	0.0	1.0	1.0
Split [s]	14	14	26	0	20	46
Walk [s]	5	5	5	0	0	5
Pedestrian Clearance [s]	10	10	17	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

Lane Group Calculations

g / C, Green / Cycle	0.17	0.47	0.40	0.40	0.24	0.70
(v / s)_i Volume / Saturation Flow Rate	0.00	0.27	0.05	0.05	0.15	0.05
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800
Arrival type	3		3		3	
s, saturation flow rate [veh/h]	1518	1355	1594	1573	2949	1594
c, Capacity [veh/h]	253	640	629	620	705	1116
X, volume / capacity	0.02	0.56	0.12	0.12	0.61	0.07
d, Delay for Lane Group [s/veh]	20.95	14.33	11.97	11.99	21.23	2.95

Lane Group LOS	C	B	B	B	C	A
Critical Lane Group	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.07	3.44	0.66	0.66	2.58	0.20
50th-Percentile Queue Length [ft/ln]	1.72	85.99	16.41	16.45	64.39	4.99
95th-Percentile Queue Length [veh/ln]	0.12	6.19	1.18	1.18	4.64	0.36
95th-Percentile Queue Length [ft/ln]	3.10	154.78	29.54	29.61	115.90	8.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	20.95	14.33	11.98	11.99	21.23	2.95
Movement LOS	C	B	B	B	C	A
Critical Movement	No	No	No	No	Yes	No
d_A, Approach Delay [s/veh]	14.44		11.98		18.56	
Approach LOS	B		B		B	
d_I, Intersection Delay [s/veh]	16.10					
Intersection LOS	B					
Intersection V/C	0.390					

Option 1: Install traffic signal, modify WB approach, and add NBR overlap phasing.

Number	1					
Intersection	Keypointe Dr at Amargosa Rd					
Control Type	Signalized					
Analysis Method	HCM 7th Edition					
Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Base Volume Input [veh/h]	6	244	116	13	279	142
Total Analysis Volume [veh/h]	7	621	153	15	892	195

Intersection Settings

Cycle Length [s]	60					
Active Pattern	Pattern 1					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Semi-actuated					
Lost time [s]	0.00					
Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	3	3	2	0	1	6
Auxiliary Signal Groups		1,3				
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	10	0	5	10
Maximum Green [s]	80	80	142	0	5	142
Amber [s]	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	0.0	1.0	1.0
Split [s]	10	10	26	0	24	50
Walk [s]	5	5	5	0	0	5
Pedestrian Clearance [s]	10	10	17	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

Lane Group Calculations

g / C, Green / Cycle	0.10	0.50	0.37	0.37	0.33	0.77
(v / s)_i Volume / Saturation Flow Rate	0.00	0.46	0.05	0.05	0.30	0.12
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800
Arrival type	3		3		3	
s, saturation flow rate [veh/h]	1518	1355	1594	1546	2949	1594
c, Capacity [veh/h]	152	674	589	571	975	1222
X, volume / capacity	0.05	0.92	0.14	0.15	0.92	0.16
d, Delay for Lane Group [s/veh]	24.54	34.03	13.10	13.16	23.18	2.14

Lane Group LOS	C	C	B	B	C	A
Critical Lane Group	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.09	10.05	0.76	0.76	5.82	0.32
50th-Percentile Queue Length [ft/ln]	2.26	251.36	18.97	19.07	145.56	7.95
95th-Percentile Queue Length [veh/ln]	0.16	15.25	1.37	1.37	9.78	0.57
95th-Percentile Queue Length [ft/ln]	4.07	381.37	34.14	34.33	244.48	14.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.54	34.03	13.12	13.16	23.18	2.14
Movement LOS	C	C	B	B	C	A
Critical Movement	No	Yes	No	No	No	No
d_A, Approach Delay [s/veh]	33.92		13.13		19.40	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	23.69					
Intersection LOS	C					
Intersection V/C	0.523					

Option 1: Install traffic signal, modify WB approach, and add NBR overlap phasing.

Number	1					
Intersection	Keypointe Dr at Amargosa Rd					
Control Type	Signalized					
Analysis Method	HCM 7th Edition					
Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Base Volume Input [veh/h]	5	177	120	7	358	60
Total Analysis Volume [veh/h]	5	307	126	7	620	63

Intersection Settings

Cycle Length [s]	60					
Active Pattern	Pattern 1					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Semi-actuated					
Lost time [s]	0.00					
Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	3	3	2	0	1	6
Auxiliary Signal Groups		1,3				
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	10	0	5	10
Maximum Green [s]	68	68	164	0	5	164
Amber [s]	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	0.0	1.0	1.0
Split [s]	10	10	26	0	24	50
Walk [s]	5	5	5	0	0	5
Pedestrian Clearance [s]	10	10	17	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

Lane Group Calculations

g / C, Green / Cycle	0.10	0.43	0.44	0.44	0.26	0.77
(v / s)_i Volume / Saturation Flow Rate	0.00	0.23	0.04	0.04	0.21	0.04
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800
Arrival type	3		3		3	
s, saturation flow rate [veh/h]	1518	1355	1594	1565	2949	1594
c, Capacity [veh/h]	152	580	700	687	770	1222
X, volume / capacity	0.03	0.53	0.10	0.10	0.80	0.05
d, Delay for Lane Group [s/veh]	24.47	14.09	10.13	10.15	22.77	1.78

Lane Group LOS	C	B	B	B	C	A
Critical Lane Group	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.06	2.87	0.50	0.50	3.93	0.09
50th-Percentile Queue Length [ft/ln]	1.61	71.77	12.51	12.54	98.14	2.33
95th-Percentile Queue Length [veh/ln]	0.12	5.17	0.90	0.90	7.07	0.17
95th-Percentile Queue Length [ft/ln]	2.90	129.18	22.51	22.57	176.66	4.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.47	14.09	10.14	10.15	22.77	1.78
Movement LOS	C	B	B	B	C	A
Critical Movement	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	14.25		10.14		20.83	
Approach LOS	B		B		C	
d_I, Intersection Delay [s/veh]	17.75					
Intersection LOS	B					
Intersection V/C	0.413					

Option 1: Install traffic signal, modify WB approach, and add NBR overlap phasing.

Number	1					
Intersection	Keypointe Dr at Amargosa Rd					
Control Type	Signalized					
Analysis Method	HCM 7th Edition					
Name	Keypointe Dr		Amargosa Rd		Amargosa Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Base Volume Input [veh/h]	24	396	141	27	313	180
Total Analysis Volume [veh/h]	25	737	148	28	865	189

Intersection Settings

Cycle Length [s]	60					
Active Pattern	Pattern 1					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Semi-actuated					
Lost time [s]	0.00					
Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	3	3	2	0	1	6
Auxiliary Signal Groups		1,3				
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	10	0	5	10
Maximum Green [s]	94	94	138	0	5	138
Amber [s]	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	0.0	1.0	1.0
Split [s]	9	9	27	0	24	51
Walk [s]	5	5	5	0	0	5
Pedestrian Clearance [s]	10	10	17	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

Lane Group Calculations

g / C, Green / Cycle	0.08	0.48	0.39	0.39	0.33	0.78
(v / s)_i Volume / Saturation Flow Rate	0.02	0.54	0.06	0.06	0.29	0.12
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800
Arrival type	3		3		3	
s, saturation flow rate [veh/h]	1518	1355	1594	1510	2949	1594
c, Capacity [veh/h]	127	647	621	588	966	1249
X, volume / capacity	0.20	1.14	0.14	0.15	0.90	0.15
d, Delay for Lane Group [s/veh]	26.39	95.97	12.32	12.42	22.44	1.85

Lane Group LOS	C	F	B	B	C	A
Critical Lane Group	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.34	21.66	0.76	0.77	5.54	0.24
50th-Percentile Queue Length [ft/ln]	8.54	541.50	19.02	19.21	138.41	6.12
95th-Percentile Queue Length [veh/ln]	0.61	32.07	1.37	1.38	9.40	0.44
95th-Percentile Queue Length [ft/ln]	15.37	801.83	34.24	34.59	234.89	11.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.39	95.97	12.36	12.42	22.44	1.85
Movement LOS	C	F	B	B	C	A
Critical Movement	No	Yes	No	No	No	No
d_A, Approach Delay [s/veh]	93.68		12.37		18.75	
Approach LOS	F		B		B	
d_I, Intersection Delay [s/veh]	46.85					
Intersection LOS	D					
Intersection V/C	0.452					

Option 1: Add one NBR and one SBR lane. Convert one existing SBT lane to be a 2nd SBL turn lane.

Number	2											
Intersection	US-395 at Phelan Rd/Main St											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	US-395			US-395			Phelan Rd			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	48	516	8	230	702	21	28	702	100	10	296	183
Total Analysis Volume [veh/h]	52	554	31	265	753	23	30	785	107	103	336	210

Intersection Settings

Cycle Length [s]	90											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	16	28	0	16	28	0	15	14	0	16	15	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	19	0	33	40	0	10	28	0	10	28	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.04	0.38	0.38	0.11	0.45	0.45	0.03	0.27	0.27	0.07	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.03	0.17	0.02	0.09	0.45	0.02	0.02	0.26	0.26	0.06	0.16	0.17
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1593	3186	1422	3095	1673	1422	1593	1772	1698	1593	1772	1548
c, Capacity [veh/h]	64	1196	534	350	749	637	47	470	450	110	539	471
X, volume / capacity	0.81	0.46	0.06	0.76	1.00	0.04	0.64	0.97	0.97	0.94	0.54	0.54
d, Delay for Lane Group [s/veh]	63.20	21.53	17.99	42.11	57.72	13.96	56.92	67.39	68.28	69.30	29.82	30.56

Lane Group LOS	E	C	B	D	F	B	E	E	E	E	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.50	4.31	0.41	2.96	21.66	0.26	0.83	14.01	13.54	3.09	5.59	5.05
50th-Percentile Queue Length [ft/ln]	37.48	107.82	10.25	74.00	541.46	6.48	20.80	350.21	338.50	77.18	139.73	126.14
95th-Percentile Queue Length [veh/ln]	2.70	7.72	0.74	5.33	29.40	0.47	1.50	20.15	19.57	5.56	9.47	8.73
95th-Percentile Queue Length [ft/ln]	67.47	192.96	18.44	133.20	734.90	11.66	37.44	503.67	489.37	138.93	236.66	218.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	63.20	21.53	17.99	42.11	57.72	13.96	56.92	67.76	68.28	69.30	29.92	30.56
Movement LOS	E	C	B	D	F	B	E	E	E	E	C	C
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	24.76			52.78			67.47			36.38		
Approach LOS	C			D			E			D		
d_I, Intersection Delay [s/veh]	48.18											
Intersection LOS	D											
Intersection V/C	0.804											

Option 1: Add one NBR and one SBR turn lane. Convert one existing SBT lane to be a 2nd SBL turn lane.

Number	2											
Intersection	US-395 at Phelan Rd/Main St											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	US-395			US-395			Phelan Rd			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	99	885	54	237	536	35	36	500	44	6	557	453
Total Analysis Volume [veh/h]	109	970	136	293	588	38	39	595	49	55	661	532

Intersection Settings

Cycle Length [s]	90											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	16	29	0	16	28	0	15	29	0	6	15	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	33	0	13	35	0	9	19	0	25	35	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

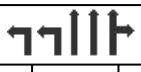
g / C, Green / Cycle	0.08	0.32	0.32	0.10	0.34	0.34	0.03	0.36	0.36	0.04	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.07	0.30	0.10	0.09	0.35	0.03	0.02	0.18	0.18	0.03	0.36	0.37
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1593	3186	1422	3095	1673	1422	1593	1772	1725	1593	1772	1515
c, Capacity [veh/h]	124	1026	458	309	576	490	55	631	614	70	647	553
X, volume / capacity	0.88	0.94	0.30	0.95	1.02	0.08	0.70	0.52	0.52	0.78	0.99	1.00
d, Delay for Lane Group [s/veh]	58.43	35.07	23.22	54.35	70.96	19.94	57.99	25.88	25.99	59.74	61.10	66.89

Lane Group LOS	E	D	C	D	F	B	E	C	C	E	E	F
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.96	10.57	2.16	3.78	18.51	0.54	1.08	5.80	5.68	1.53	18.88	17.20
50th-Percentile Queue Length [ft/ln]	73.94	264.18	54.00	94.49	462.75	13.41	27.01	144.99	141.93	38.30	471.98	430.08
95th-Percentile Queue Length [veh/ln]	5.32	15.90	3.89	6.80	25.92	0.97	1.94	9.75	9.59	2.76	26.01	24.01
95th-Percentile Queue Length [ft/ln]	133.08	397.46	97.20	170.09	647.89	24.14	48.62	243.73	239.63	68.94	650.13	600.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	58.43	35.07	23.22	54.35	70.96	19.94	57.99	25.93	25.99	59.74	61.28	66.89
Movement LOS	E	D	C	D	F	B	E	C	C	E	E	E
Critical Movement	No	No	No	No	Yes	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	35.84			63.56			27.77			63.61		
Approach LOS	D			E			C			E		
d_I, Intersection Delay [s/veh]	49.27											
Intersection LOS	D											
Intersection V/C	0.810											

Option 1: Add 3rd NBT, 3rd SBT, 2nd SBL, and 3rd EBT lanes. Modify WB approach and add WBR overlap phasing.

Number	2											
Intersection	US-395 at Phelan Rd/Main St											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	US-395			US-395			Phelan Rd			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	65	1108	30	261	1686	29	71	937	282	100	637	622
Total Analysis Volume [veh/h]	68	1166	32	294	1775	31	75	1005	297	105	685	669

Intersection Settings

Cycle Length [s]	100											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	10
Maximum Green [s]	6	28	0	12	28	0	15	29	0	16	29	29
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	10	33	0	23	46	0	10	33	0	11	34	34
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

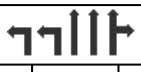
g / C, Green / Cycle	0.05	0.26	0.26	0.19	0.40	0.40	0.06	0.31	0.31	0.08	0.33	0.56
(v / s)_i Volume / Saturation Flow Rate	0.04	0.23	0.23	0.09	0.35	0.35	0.04	0.26	0.26	0.06	0.14	0.44
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1687	3373	1747	3277	3373	1756	1687	3373	1573	1687	4826	1506
c, Capacity [veh/h]	87	885	458	623	1353	704	95	1050	490	129	1599	845
X, volume / capacity	0.79	0.89	0.89	0.47	0.88	0.88	0.79	0.85	0.85	0.82	0.43	0.79
d, Delay for Lane Group [s/veh]	61.57	38.91	50.73	36.60	29.67	38.08	60.03	40.56	48.51	57.17	26.89	24.79

Lane Group LOS	E	D	D	D	C	D	E	D	D	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.02	9.49	11.34	3.22	12.97	15.18	2.19	11.01	11.35	2.97	4.30	12.94
50th-Percentile Queue Length [ft/ln]	50.41	237.25	283.53	80.40	324.31	379.56	54.64	275.26	283.80	74.16	107.40	323.43
95th-Percentile Queue Length [veh/ln]	3.63	14.54	16.86	5.79	18.88	21.57	3.93	16.45	16.88	5.34	7.70	18.84
95th-Percentile Queue Length [ft/ln]	90.73	363.56	421.60	144.72	471.98	539.32	98.36	411.30	421.95	133.49	192.38	470.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	61.57	42.73	50.73	36.60	32.46	38.08	60.03	41.48	48.51	57.17	26.89	24.79
Movement LOS	E	D	D	D	C	D	E	D	D	E	C	C
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	43.94			33.12			44.01			28.11		
Approach LOS	D			C			D			C		
d_I, Intersection Delay [s/veh]	36.57											
Intersection LOS	D											
Intersection V/C	0.788											

Option 1: Add 3rd NBT, 3rd SBT, 2nd SBL, and 3rd EBT lanes. Modify WB approach and add WBR overlap phasing.

Number	2											
Intersection	US-395 at Phelan Rd/Main St											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	US-395			US-395			Phelan Rd			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	293	1764	129	623	1277	117	44	705	56	52	1011	554
Total Analysis Volume [veh/h]	308	1857	136	689	1344	123	46	776	59	55	1099	618

Intersection Settings

Cycle Length [s]	100											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	10
Maximum Green [s]	16	38	0	12	28	0	15	12	0	17	15	15
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	36	42	0	24	30	0	10	24	0	10	24	24
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.20	0.38	0.38	0.20	0.38	0.38	0.04	0.22	0.22	0.04	0.22	0.46
(v / s)_i Volume / Saturation Flow Rate	0.18	0.39	0.40	0.21	0.29	0.29	0.03	0.16	0.16	0.03	0.23	0.41
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1687	3373	1711	3277	3373	1697	1687	3373	1708	1687	4826	1506
c, Capacity [veh/h]	345	1282	650	655	1266	637	62	737	373	70	1077	697
X, volume / capacity	0.89	1.03	1.04	1.05	0.77	0.78	0.74	0.75	0.75	0.79	1.02	0.89
d, Delay for Lane Group [s/veh]	48.45	50.60	76.62	71.93	28.44	33.04	63.43	43.46	49.83	64.71	71.51	39.86

Lane Group LOS	D	F	F	F	C	C	E	D	D	E	F	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.18	18.31	23.27	10.83	10.06	11.05	1.40	6.94	7.72	1.69	11.89	15.58
50th-Percentile Queue Length [ft/ln]	204.52	457.77	581.80	270.66	251.42	276.24	35.03	173.38	193.11	42.13	297.32	389.62
95th-Percentile Queue Length [veh/ln]	12.87	25.81	32.05	16.64	15.26	16.50	2.52	11.25	12.28	3.03	17.74	22.06
95th-Percentile Queue Length [ft/ln]	321.78	645.31	801.29	416.07	381.45	412.52	63.05	281.35	307.06	75.84	443.61	551.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.45	58.17	76.62	71.93	29.71	33.04	63.43	45.29	49.83	64.71	71.51	39.86
Movement LOS	D	E	E	F	C	C	E	D	D	E	F	D
Critical Movement	No	No	Yes	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	57.96			43.39			46.54			60.26		
Approach LOS	E			D			D			E		
d_I, Intersection Delay [s/veh]	52.70											
Intersection LOS	D											
Intersection V/C	0.896											

Option 1: Add 2nd SBL lane, add NBR overlap phasing, and modify NB/SB phasing.

Number	5											
Intersection	Keypointe Dr at Main St											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	7	10	56	113	24	10	20	944	9	128	634	120
Total Analysis Volume [veh/h]	7	10	59	280	26	85	105	1000	9	136	808	331

Intersection Settings

Cycle Length [s]	90											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	10	10	5	10	0	5	10	0	5	10	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	17	36	36	17	36	0	15	26	0	11	22	0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	27	0	27	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No		No	No		No	No	
Maximum Recall	No	No	No	No	No		No	No		No	No	
Pedestrian Recall	No	No	No	No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.01	0.09	0.24	0.11	0.20	0.08	0.51	0.51	0.11	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.00	0.01	0.04	0.09	0.08	0.07	0.21	0.01	0.09	0.23	0.23
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3		3			3		
s, saturation flow rate [veh/h]	1593	1772	1506	3095	1474	1593	4826	1506	1593	3373	1521
c, Capacity [veh/h]	15	164	366	350	289	132	2462	768	170	1801	812
X, volume / capacity	0.46	0.06	0.16	0.80	0.38	0.79	0.41	0.01	0.80	0.44	0.44
d, Delay for Lane Group [s/veh]	65.02	37.44	27.02	43.15	32.29	50.78	14.12	10.89	47.71	13.51	14.46

Lane Group LOS	E	D	C	D	C	D	B	B	D	B	B
Critical Lane Group	No	No	Yes	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.24	0.21	1.01	3.17	2.13	2.63	4.05	0.09	3.29	4.67	4.43
50th-Percentile Queue Length [ft/ln]	6.01	5.16	25.15	79.37	53.36	65.74	101.13	2.26	82.24	116.69	110.82
95th-Percentile Queue Length [veh/ln]	0.43	0.37	1.81	5.71	3.84	4.73	7.28	0.16	5.92	8.21	7.89
95th-Percentile Queue Length [ft/ln]	10.81	9.29	45.26	142.87	96.05	118.34	182.03	4.08	148.03	205.26	197.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	65.02	37.44	27.02	43.15	32.29	32.29	50.78	14.12	10.89	47.71	13.54	14.46
Movement LOS	E	D	C	D	C	C	D	B	B	D	B	B
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	31.89			40.06			17.55			17.42		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	20.96											
Intersection LOS	C											
Intersection V/C	0.424											

Option 1: Add 2nd SBL lane, add NBR overlap phasing, and modify NB/SB phasing.

Number	5											
Intersection	Keypointe Dr at Main St											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	30	48	217	218	80	19	38	933	20	269	1013	180
Total Analysis Volume [veh/h]	32	51	233	600	85	189	206	1062	22	288	1098	536

Intersection Settings

Cycle Length [s]	90											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	10	10	5	10	0	6	10	0	6	10	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	18	36	36	18	36	0	10	26	0	10	26	0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	27	0	27	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No		No	No		No	No	
Maximum Recall	No	No	No	No	No		No	No		No	No	
Pedestrian Recall	No	No	No	No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.03	0.11	0.36	0.16	0.24	0.15	0.35	0.35	0.21	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.02	0.03	0.15	0.19	0.18	0.13	0.22	0.01	0.18	0.33	0.36
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3		3			3		
s, saturation flow rate [veh/h]	1593	1772	1506	3095	1492	1593	4826	1506	1593	3373	1506
c, Capacity [veh/h]	49	198	547	481	352	239	1680	524	330	1367	610
X, volume / capacity	0.65	0.26	0.43	1.25	0.78	0.86	0.63	0.04	0.87	0.80	0.88
d, Delay for Lane Group [s/veh]	56.73	37.26	22.13	154.09	35.88	46.25	26.34	19.56	43.72	28.69	41.12

Lane Group LOS	E	D	C	F	D	D	C	B	D	C	D
Critical Lane Group	No	No	Yes	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.88	1.05	3.67	12.96	5.81	4.93	6.38	0.32	6.79	10.74	12.77
50th-Percentile Queue Length [ft/ln]	22.07	26.32	91.75	323.91	145.16	123.27	159.48	8.04	169.70	268.38	319.21
95th-Percentile Queue Length [veh/ln]	1.59	1.90	6.61	20.70	9.76	8.57	10.52	0.58	11.06	16.11	18.63
95th-Percentile Queue Length [ft/ln]	39.72	47.38	165.15	517.57	243.96	214.31	263.04	14.48	276.52	402.72	465.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.73	37.26	22.13	154.09	35.88	35.88	46.25	26.34	19.56	43.72	28.69	41.12
Movement LOS	E	D	C	F	D	D	D	C	B	D	C	D
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	28.08			117.03			29.40			34.41		
Approach LOS	C			F			C			C		
d_I, Intersection Delay [s/veh]	48.89											
Intersection LOS	D											
Intersection V/C	0.798											

Option 1: Add 2nd SBL lane, add NBR overlap phasing, and modify NB/SB phasing.

Number	5											
Intersection	Keypointe Dr at Main St											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	10	10	58	247	38	33	21	1025	9	133	1235	154
Total Analysis Volume [veh/h]	11	11	61	417	40	112	108	1031	9	140	1253	341

Intersection Settings

Cycle Length [s]	90											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	10	10	5	10	0	6	10	0	6	10	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	18	36	36	18	36	0	10	26	0	10	26	0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	27	0	27	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No		No	No		No	No	
Maximum Recall	No	No	No	No	No		No	No		No	No	
Pedestrian Recall	No	No	No	No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.01	0.09	0.24	0.15	0.23	0.08	0.48	0.48	0.10	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.01	0.01	0.04	0.13	0.10	0.06	0.20	0.01	0.08	0.30	0.31
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3		3			3		
s, saturation flow rate [veh/h]	1687	1870	1589	3277	1568	1687	5094	1589	1687	3560	1673
c, Capacity [veh/h]	24	177	387	485	358	137	2422	756	176	1774	834
X, volume / capacity	0.45	0.06	0.16	0.86	0.42	0.79	0.43	0.01	0.80	0.61	0.61
d, Delay for Lane Group [s/veh]	56.44	37.24	26.98	42.04	30.48	50.17	16.08	12.48	47.39	17.86	19.66

Lane Group LOS	E	D	C	D	C	D	B	B	D	B	B
Critical Lane Group	No	No	Yes	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.33	0.23	1.04	4.71	2.84	2.68	4.52	0.10	3.37	7.89	7.86
50th-Percentile Queue Length [ft/ln]	8.13	5.65	25.96	117.75	71.09	67.06	113.11	2.46	84.21	197.22	196.57
95th-Percentile Queue Length [veh/ln]	0.59	0.41	1.87	8.27	5.12	4.83	8.01	0.18	6.06	12.50	12.46
95th-Percentile Queue Length [ft/ln]	14.64	10.17	46.72	206.73	127.96	120.70	200.32	4.43	151.57	312.38	311.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.44	37.24	26.98	42.04	30.48	30.48	50.17	16.08	12.48	47.39	18.10	19.66
Movement LOS	E	D	C	D	C	C	D	B	B	D	B	B
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	32.24			38.95			19.26			20.77		
Approach LOS	C			D			B			C		
d_I, Intersection Delay [s/veh]	23.48											
Intersection LOS	C											
Intersection V/C	0.530											

Option 1: Add 2nd SBL lane, add NBR overlap phasing, and modify NB/SB phasing.

Number	5											
Intersection	Keypointe Dr at Main St											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name	Keypointe Dr			Keypointe Dr			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	34	56	226	250	83	20	70	1392	29	280	1289	234
Total Analysis Volume [veh/h]	36	59	238	614	87	194	242	1364	31	295	1258	581

Intersection Settings

Cycle Length [s]	90											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	10	10	5	10	0	6	10	0	6	10	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	18	36	36	18	36	0	10	26	0	10	26	0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	27	0	27	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No		No	No		No	No	
Maximum Recall	No	No	No	No	No		No	No		No	No	
Pedestrian Recall	No	No	No	No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.03	0.11	0.36	0.16	0.23	0.17	0.35	0.35	0.20	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.02	0.03	0.15	0.19	0.18	0.14	0.27	0.02	0.17	0.35	0.37
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3		3			3		
s, saturation flow rate [veh/h]	1687	1870	1589	3277	1579	1687	5094	1589	1687	3560	1589
c, Capacity [veh/h]	56	208	570	510	369	278	1796	560	342	1390	620
X, volume / capacity	0.64	0.28	0.42	1.20	0.76	0.87	0.76	0.06	0.86	0.91	0.94
d, Delay for Lane Group [s/veh]	54.77	37.44	22.27	135.19	35.40	44.76	28.83	19.42	42.16	35.88	49.85

Lane Group LOS	D	D	C	F	D	D	C	B	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.97	1.22	3.76	12.38	5.90	5.71	8.77	0.45	6.80	13.97	15.38
50th-Percentile Queue Length [ft/ln]	24.15	30.52	93.94	309.52	147.42	142.65	219.35	11.25	170.11	349.26	384.47
95th-Percentile Queue Length [veh/ln]	1.74	2.20	6.76	19.67	9.88	9.62	13.63	0.81	11.08	20.10	21.81
95th-Percentile Queue Length [ft/ln]	43.46	54.93	169.09	491.80	246.99	240.59	340.80	20.25	277.06	502.51	545.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.77	37.44	22.27	135.19	35.40	35.40	44.76	28.83	19.42	42.16	35.88	49.85
Movement LOS	D	D	C	F	D	D	D	C	B	D	D	D
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	28.47			103.86			31.01			40.55		
Approach LOS	C			F			C			D		
d_I, Intersection Delay [s/veh]	47.96											
Intersection LOS	D											
Intersection V/C	0.812											

APPENDIX E

CUMULATIVE PROJECTS INFORMATION

TOTAL CUMULATIVE PROJECTS TRAFFIC

AM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Keypointe Drive at Amargosa Road	0	0	29	0	0	0	0	40	0	7	9	0
2	US-395 at Phelan Road/Main Street	0	0	22	0	0	0	0	13	0	90	4	0
3	Mesa Linda Street at Main Street	0	0	14	0	0	0	0	35	0	57	94	0
4	Cataba Road at Main Street	0	0	0	7	0	3	12	36	0	0	148	29
5	Keypointe Drive at Main Street	0	0	0	7	0	0	0	43	0	0	177	29
6	I-15 SB Ramps at Main Street	0	0	0	6	0	68	0	33	16	0	138	4
7	I-15 NB Ramps at Main Street	68	0	6	0	0	0	0	24	16	0	74	4
8	Mariposa Road at Main Street	0	0	0	1	0	9	13	17	0	0	69	1
9	Mountain Vista Avenue at Main Street	0	0	0	0	0	0	0	18	0	0	70	0
10	Escondido Avenue at Main Street	0	0	0	0	0	0	0	18	0	0	70	0
11	Topaz Avenue at Main Street	0	0	0	0	0	0	0	18	0	0	70	0
12	Keypointe Drive at South Fuel Entrance Driveway	0	29	0	0	7	0	0	0	0	0	0	0
13	Amargosa Road at West Retail Driveway/West Fuel Driveway	0	0	0	0	0	0	0	69	0	0	16	0
14	Amargosa Road at East Retail Driveway/East Fuel Exit Driveway	0	0	0	0	0	0	0	69	0	0	16	0

PM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Keypointe Drive at Amargosa Road	0	0	15	0	0	0	0	20	0	23	32	0
2	US-395 at Phelan Road/Main Street	0	0	73	0	0	0	0	12	0	46	15	0
3	Mesa Linda Street at Main Street	0	0	46	0	0	0	0	85	0	29	61	0
4	Cataba Road at Main Street	0	0	0	30	0	9	6	128	0	0	85	22
5	Keypointe Drive at Main Street	0	0	0	23	0	0	0	157	0	0	106	15
6	I-15 SB Ramps at Main Street	0	0	0	13	0	40	0	121	59	0	80	13
7	I-15 NB Ramps at Main Street	40	0	13	0	0	0	0	75	59	0	55	13
8	Mariposa Road at Main Street	0	0	0	3	0	30	30	58	0	0	38	3
9	Mountain Vista Avenue at Main Street	0	0	0	0	0	0	0	61	0	0	41	0
10	Escondido Avenue at Main Street	0	0	0	0	0	0	0	61	0	0	41	0
11	Topaz Avenue at Main Street	0	0	0	0	0	0	0	61	0	0	41	0
12	Keypointe Drive at South Fuel Entrance Driveway	0	15	0	0	23	0	0	0	0	0	0	0
13	Amargosa Road at West Retail Driveway/West Fuel Driveway	0	0	0	0	0	0	0	35	0	0	55	0
14	Amargosa Road at East Retail Driveway/East Fuel Exit Driveway	0	0	0	0	0	0	0	35	0	0	55	0

Enter only in blue cells	Yellow cells calculate

Int. #:	1	Keypointe Drive at Amargosa Road

Mirror distribution? Y Entire Intersection

Mirror distribution?

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	29	0	0	0	0	40	0	0	0	0
AM Out		0	0	0	0	0	0	0	0	0	7	9	0
AM Tot		0	0	29	0	0	0	0	40	0	7	9	0
PM In		0	0	15	0	0	0	0	20	0	0	0	0
PM Out		0	0	0	0	0	0	0	0	0	23	32	0
PM Tot		0	0	15	0	0	0	0	20	0	23	32	0

Zone #	1	Cumulative Project #1

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	226	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	54	0	0	0	0	0	0	0	0	0	0	0	0
PM In	115	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	182	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	2	Cumulative Projects #2 and #4

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In			25%					35%				
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	35%	0%
AM Out												
PM In	0%	0%	25%	0%	0%	0%	0%	35%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	35%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	115	0	0	29	0	0	0	0	40	0	0	0	0
AM Out	27	0	0	0	0	0	0	0	0	0	7	9	0
PM In	58	0	0	15	0	0	0	0	20	0	0	0	0
PM Out	92	0	0	0	0	0	0	0	0	0	23	32	0

Zone #	3	Cumulative Project #3

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	0	0	0	0	0	0	0	0	0	0	0	0	0
PM In	26	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	26	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	4	Cumulative Project #5

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	28	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	19	0	0	0	0	0	0	0	0	0	0	0	0
PM In	66	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	66	0	0	0	0	0	0	0	0	0	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	2	US-395 at Phelan Road/Main Street

Y

| |

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	0	0	0	0	13	0	90	0	0
AM Out		0	0	22	0	0	0	0	0	0	0	4	0
AM Tot		0	0	22	0	0	0	0	13	0	90	4	0
PM In		0	0	0	0	0	0	0	12	0	46	0	0
PM Out		0	0	73	0	0	0	0	0	0	0	15	0
PM Tot		0	0	73	0	0	0	0	12	0	46	15	0

Zone #	1	Cumulative Project #1

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In										40%		
Y	0%	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%	0%
PM Out	0%	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	226	0	0	0	0	0	0	0	0	0	90	0	0
AM Out	54	0	0	22	0	0	0	0	0	0	0	0	0
PM In	115	0	0	0	0	0	0	0	0	0	46	0	0
PM Out	182	0	0	73	0	0	0	0	0	0	0	0	0

Zone #	2	Cumulative Projects #2 and #4

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In								10%				
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	115	0	0	0	0	0	0	0	12	0	0	0	0
AM Out	27	0	0	0	0	0	0	0	0	0	0	3	0
PM In	58	0	0	0	0	0	0	0	6	0	0	0	0
PM Out	92	0	0	0	0	0	0	0	0	0	0	9	0

Zone #	3	Cumulative Project #3

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In								10%				
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	0	0	0	0	0	0	0	0	0	0	0	0	0
PM In	26	0	0	0	0	0	0	0	3	0	0	0	0
PM Out	26	0	0	0	0	0	0	0	0	0	0	3	0

Zone #	4	Cumulative Project #5

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In								5%				
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	28	0	0	0	0	0	0	0	1	0	0	0	0
AM Out	19	0	0	0	0	0	0	0	0	0	0	1	0
PM In	66	0	0	0	0	0	0	0	3	0	0	0	0
PM Out	66	0	0	0	0	0	0	0	0	0	0	3	0

Enter only in blue cells	Yellow cells calculate

Int. #:	3	Mesa Linda Street at Main Street

Y

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	0	0	0	0	13	0	57	90	0
AM Out		0	0	14	0	0	0	0	22	0	0	4	0
AM Tot		0	0	14	0	0	0	0	35	0	57	94	0
PM In		0	0	0	0	0	0	0	12	0	29	46	0
PM Out		0	0	46	0	0	0	0	73	0	0	15	0
PM Tot		0	0	46	0	0	0	0	85	0	29	61	0

Zone #	1	Cumulative Project #1

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In										25%	40%	
Y	0%	0%	25%	0%	0%	0%	0%	40%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	40%	0%
PM Out	0%	0%	25%	0%	0%	0%	0%	40%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	226	0	0	0	0	0	0	0	0	0	57	90	0
AM Out	54	0	0	14	0	0	0	0	22	0	0	0	0
PM In	115	0	0	0	0	0	0	0	0	0	29	46	0
PM Out	182	0	0	46	0	0	0	0	73	0	0	0	0

Zone #	2	Cumulative Projects #2 and #4

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In								10%				
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	115	0	0	0	0	0	0	0	12	0	0	0	0
AM Out	27	0	0	0	0	0	0	0	0	0	0	3	0
PM In	58	0	0	0	0	0	0	0	6	0	0	0	0
PM Out	92	0	0	0	0	0	0	0	0	0	0	9	0

Zone #	3	Cumulative Project #3

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In								10%				
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	0	0	0	0	0	0	0	0	0	0	0	0	0
PM In	26	0	0	0	0	0	0	0	3	0	0	0	0
PM Out	26	0	0	0	0	0	0	0	0	0	0	3	0

Zone #	4	Cumulative Project #5

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In								5%				
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	28	0	0	0	0	0	0	0	1	0	0	0	0
AM Out	19	0	0	0	0	0	0	0	0	0	0	1	0
PM In	66	0	0	0	0	0	0	0	3	0	0	0	0
PM Out	66	0	0	0	0	0	0	0	0	0	0	3	0

Enter only in blue cells	Yellow cells calculate

Int. #:	4	Cataba Road at Main Street

Y

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	0	0	0	12	1	0	0	147	29
AM Out		0	0	0	7	0	3	0	35	0	0	1	0
AM Tot		0	0	0	7	0	3	12	36	0	0	148	29
PM In		0	0	0	0	0	0	6	3	0	0	82	22
PM Out		0	0	0	30	0	9	0	125	0	0	3	0
PM Tot		0	0	0	30	0	9	6	128	0	0	85	22

Zone #	1	Cumulative Project #1

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											65%	
Y	0%	0%	0%	0%	0%	0%	0%	65%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	65%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	65%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	226	0	0	0	0	0	0	0	0	0	0	147	0
AM Out	54	0	0	0	0	0	0	0	35	0	0	0	0
PM In	115	0	0	0	0	0	0	0	0	0	0	75	0
PM Out	182	0	0	0	0	0	0	0	118	0	0	0	0

Zone #	2	Cumulative Projects #2 and #4

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In							10%					25%
Y	0%	0%	0%	25%	0%	10%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%	25%
PM Out	0%	0%	0%	25%	0%	10%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	115	0	0	0	0	0	0	12	0	0	0	0	29
AM Out	27	0	0	0	7	0	3	0	0	0	0	0	0
PM In	58	0	0	0	0	0	0	6	0	0	0	0	15
PM Out	92	0	0	0	23	0	9	0	0	0	0	0	0

Zone #	3	Cumulative Project #3

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											25%	25%
Y	0%	0%	0%	25%	0%	0%	0%	25%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	25%
PM Out	0%	0%	0%	25%	0%	0%	0%	25%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	0	0	0	0	0	0	0	0	0	0	0	0	0
PM In	26	0	0	0	0	0	0	0	0	0	0	7	7
PM Out	26	0	0	0	7	0	0	0	7	0	0	0	0

Zone #	4	Cumulative Project #5

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In								5%				
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	28	0	0	0	0	0	0	0	1	0	0	0	0
AM Out	19	0	0	0	0	0	0	0	0	0	0	1	0
PM In	66	0	0	0	0	0	0	0	3	0	0	0	0
PM Out	66	0	0	0	0	0	0	0	0	0	0	3	0

Enter only in blue cells	Yellow cells calculate

Int. #:	5	Keypointe Drive at Main Street

Y

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	0	0	0	0	1	0	0	176	29
AM Out		0	0	0	7	0	0	0	42	0	0	1	0
AM Tot		0	0	0	7	0	0	0	43	0	0	177	29
PM In		0	0	0	0	0	0	0	3	0	0	103	15
PM Out		0	0	0	23	0	0	0	154	0	0	3	0
PM Tot		0	0	0	23	0	0	0	157	0	0	106	15

Zone #	1	Cumulative Project #1

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											65%	
Y	0%	0%	0%	0%	0%	0%	0%	65%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	65%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	65%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	226	0	0	0	0	0	0	0	0	0	0	147	0
AM Out	54	0	0	0	0	0	0	0	35	0	0	0	0
PM In	115	0	0	0	0	0	0	0	0	0	0	75	0
PM Out	182	0	0	0	0	0	0	0	118	0	0	0	0

Zone #	2	Cumulative Projects #2 and #4

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											25%	25%
Y	0%	0%	0%	25%	0%	0%	0%	25%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	25%
PM Out	0%	0%	0%	25%	0%	0%	0%	25%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	115	0	0	0	0	0	0	0	0	0	0	29	29
AM Out	27	0	0	0	7	0	0	0	7	0	0	0	0
PM In	58	0	0	0	0	0	0	0	0	0	0	15	15
PM Out	92	0	0	0	23	0	0	0	23	0	0	0	0

Zone #	3	Cumulative Project #3

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											50%	
Y	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	0	0	0	0	0	0	0	0	0	0	0	0	0
PM In	26	0	0	0	0	0	0	0	0	0	0	13	0
PM Out	26	0	0	0	0	0	0	0	13	0	0	0	0

Zone #	4	Cumulative Project #5

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In								5%				
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	28	0	0	0	0	0	0	0	1	0	0	0	0
AM Out	19	0	0	0	0	0	0	0	0	0	0	1	0
PM In	66	0	0	0	0	0	0	0	3	0	0	0	0
PM Out	66	0	0	0	0	0	0	0	0	0	0	3	0

Enter only in blue cells	Yellow cells calculate

Int. #:	6	I-15 SB Ramps at Main Street

N

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	6	0	68	0	1	0	0	137	0
AM Out		0	0	0	0	0	0	0	32	16	0	1	4
AM Tot		0	0	0	6	0	68	0	33	16	0	138	4
PM In		0	0	0	13	0	40	0	3	0	0	77	0
PM Out		0	0	0	0	0	0	0	118	59	0	3	13
PM Tot		0	0	0	13	0	40	0	121	59	0	80	13

Zone #	1	Cumulative Project #1

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In						20%					45%	
N	0%	0%	0%	0%	0%	0%	0%	45%	20%	0%	0%	0%
AM Out								45%	20%			
PM In	0%	0%	0%	0%	0%	20%	0%	0%	0%	0%	45%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	45%	20%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	226	0	0	0	0	0	45	0	0	0	0	102	0
AM Out	54	0	0	0	0	0	0	0	24	11	0	0	0
PM In	115	0	0	0	0	0	23	0	0	0	0	52	0
PM Out	182	0	0	0	0	0	0	0	82	36	0	0	0

Zone #	2	Cumulative Projects #2 and #4

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In						20%					30%	
N	0%	0%	0%	0%	0%	0%	0%	30%	20%	0%	0%	0%
AM Out								30%	20%			
PM In	0%	0%	0%	0%	0%	20%	0%	0%	0%	0%	30%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	30%	20%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	115	0	0	0	0	0	23	0	0	0	0	35	0
AM Out	27	0	0	0	0	0	0	0	8	5	0	0	0
PM In	58	0	0	0	0	0	12	0	0	0	0	17	0
PM Out	92	0	0	0	0	0	0	0	28	18	0	0	0

Zone #	3	Cumulative Project #3

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In						20%					30%	
N	0%	0%	0%	0%	0%	0%	0%	30%	20%	0%	0%	0%
AM Out								30%	20%			
PM In	0%	0%	0%	0%	0%	20%	0%	0%	0%	0%	30%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	30%	20%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	0	0	0	0	0	0	0	0	0	0	0	0	0
PM In	26	0	0	0	0	0	5	0	0	0	0	8	0
PM Out	26	0	0	0	0	0	0	0	8	5	0	0	0

Zone #	4	Cumulative Project #5

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In				20%				5%				
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	20%
AM Out											5%	20%
PM In	0%	0%	0%	20%	0%	0%	0%	5%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	20%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	28	0	0	0	6	0	0	0	1	0	0	0	0
AM Out	19	0	0	0	0	0	0	0	0	0	0	1	4
PM In	66	0	0	0	13	0	0	0	3	0	0	0	0
PM Out	66	0	0	0	0	0	0	0	0	0	0	3	13

Enter only in blue cells	Yellow cells calculate

Int. #:	7	I-15 NB Ramps at Main Street

N

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		68	0	6	0	0	0	0	7	0	0	69	0
AM Out		0	0	0	0	0	0	0	17	16	0	5	4
AM Tot		68	0	6	0	0	0	0	24	16	0	74	4
PM In		40	0	13	0	0	0	0	17	0	0	38	0
PM Out		0	0	0	0	0	0	0	58	59	0	17	13
PM Tot		40	0	13	0	0	0	0	75	59	0	55	13

Zone #	1	Cumulative Project #1

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	20%										25%	
N	0%	0%	0%	0%	0%	0%	0%	25%	20%	0%	0%	0%
AM Out								25%	20%			
PM In	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	25%	20%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	226	45	0	0	0	0	0	0	0	0	0	57	0
AM Out	54	0	0	0	0	0	0	0	14	11	0	0	0
PM In	115	23	0	0	0	0	0	0	0	0	0	29	0
PM Out	182	0	0	0	0	0	0	0	46	36	0	0	0

Zone #	2	Cumulative Projects #2 and #4

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	20%										10%	
N	0%	0%	0%	0%	0%	0%	0%	10%	20%	0%	0%	0%
AM Out								10%	20%			
PM In	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	10%	20%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	115	23	0	0	0	0	0	0	0	0	0	12	0
AM Out	27	0	0	0	0	0	0	0	3	5	0	0	0
PM In	58	12	0	0	0	0	0	0	0	0	0	6	0
PM Out	92	0	0	0	0	0	0	0	9	18	0	0	0

Zone #	3	Cumulative Project #3

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	20%										10%	
N	0%	0%	0%	0%	0%	0%	0%	10%	20%	0%	0%	0%
AM Out								10%	20%			
PM In	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	10%	20%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	0	0	0	0	0	0	0	0	0	0	0	0	0
PM In	26	5	0	0	0	0	0	0	0	0	0	3	0
PM Out	26	0	0	0	0	0	0	0	3	5	0	0	0

Zone #	4	Cumulative Project #5

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In			20%					25%				
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	20%
AM Out											25%	20%
PM In	0%	0%	20%	0%	0%	0%	0%	25%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	20%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	28	0	0	6	0	0	0	0	7	0	0	0	0
AM Out	19	0	0	0	0	0	0	0	0	0	0	5	4
PM In	66	0	0	13	0	0	0	0	17	0	0	0	0
PM Out	66	0	0	0	0	0	0	0	0	0	0	17	13

Enter only in blue cells	Yellow cells calculate

Int. #:	8	Mariposa Road at Main Street

Y

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	0	0	0	13	0	0	0	69	1
AM Out		0	0	0	1	0	9	0	17	0	0	0	0
AM Tot		0	0	0	1	0	9	13	17	0	0	69	1
PM In		0	0	0	0	0	0	30	0	0	0	38	3
PM Out		0	0	0	3	0	30	0	58	0	0	0	0
PM Tot		0	0	0	3	0	30	30	58	0	0	38	3

Zone #	1	Cumulative Project #1

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											25%	
Y	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	226	0	0	0	0	0	0	0	0	0	0	57	0
AM Out	54	0	0	0	0	0	0	0	14	0	0	0	0
PM In	115	0	0	0	0	0	0	0	0	0	0	29	0
PM Out	182	0	0	0	0	0	0	0	46	0	0	0	0

Zone #	2	Cumulative Projects #2 and #4

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											10%	
Y	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	115	0	0	0	0	0	0	0	0	0	0	12	0
AM Out	27	0	0	0	0	0	0	0	3	0	0	0	0
PM In	58	0	0	0	0	0	0	0	0	0	0	6	0
PM Out	92	0	0	0	0	0	0	0	9	0	0	0	0

Zone #	3	Cumulative Project #3

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											10%	
Y	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	0	0	0	0	0	0	0	0	0	0	0	0	0
PM In	26	0	0	0	0	0	0	0	0	0	0	3	0
PM Out	26	0	0	0	0	0	0	0	3	0	0	0	0

Zone #	4	Cumulative Project #5

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In							45%					5%
Y	0%	0%	0%	5%	0%	45%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	45%	0%	0%	0%	0%	5%
PM Out	0%	0%	0%	5%	0%	45%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	28	0	0	0	0	0	0	13	0	0	0	0	1
AM Out	19	0	0	0	1	0	9	0	0	0	0	0	0
PM In	66	0	0	0	0	0	0	30	0	0	0	0	3
PM Out	66	0	0	0	3	0	30	0	0	0	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	9	Mountain Vista Avenue at Main Street

Y

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	0	0	0	0	0	0	0	70	0
AM Out		0	0	0	0	0	0	0	18	0	0	0	0
AM Tot		0	0	0	0	0	0	0	18	0	0	70	0
PM In		0	0	0	0	0	0	0	0	0	0	41	0
PM Out		0	0	0	0	0	0	0	61	0	0	0	0
PM Tot		0	0	0	0	0	0	0	61	0	0	41	0

Zone #	1	Cumulative Project #1

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											25%	
Y	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	226	0	0	0	0	0	0	0	0	0	0	57	0
AM Out	54	0	0	0	0	0	0	0	14	0	0	0	0
PM In	115	0	0	0	0	0	0	0	0	0	0	29	0
PM Out	182	0	0	0	0	0	0	0	46	0	0	0	0

Zone #	2	Cumulative Projects #2 and #4

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											10%	
Y	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	115	0	0	0	0	0	0	0	0	0	0	12	0
AM Out	27	0	0	0	0	0	0	0	3	0	0	0	0
PM In	58	0	0	0	0	0	0	0	0	0	0	6	0
PM Out	92	0	0	0	0	0	0	0	9	0	0	0	0

Zone #	3	Cumulative Project #3

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											10%	
Y	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	0	0	0	0	0	0	0	0	0	0	0	0	0
PM In	26	0	0	0	0	0	0	0	0	0	0	3	0
PM Out	26	0	0	0	0	0	0	0	3	0	0	0	0

Zone #	4	Cumulative Project #5

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											5%	
Y	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	28	0	0	0	0	0	0	0	0	0	0	1	0
AM Out	19	0	0	0	0	0	0	0	1	0	0	0	0
PM In	66	0	0	0	0	0	0	0	0	0	0	3	0
PM Out	66	0	0	0	0	0	0	0	3	0	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	10	Escondido Avenue at Main Street

Y

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	0	0	0	0	0	0	0	70	0
AM Out		0	0	0	0	0	0	0	18	0	0	0	0
AM Tot		0	0	0	0	0	0	0	18	0	0	70	0
PM In		0	0	0	0	0	0	0	0	0	0	41	0
PM Out		0	0	0	0	0	0	0	61	0	0	0	0
PM Tot		0	0	0	0	0	0	0	61	0	0	41	0

Zone #	1	Cumulative Project #1

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											25%	
Y	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	226	0	0	0	0	0	0	0	0	0	0	57	0
AM Out	54	0	0	0	0	0	0	0	14	0	0	0	0
PM In	115	0	0	0	0	0	0	0	0	0	0	29	0
PM Out	182	0	0	0	0	0	0	0	46	0	0	0	0

Zone #	2	Cumulative Projects #2 and #4

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											10%	
Y	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	115	0	0	0	0	0	0	0	0	0	0	12	0
AM Out	27	0	0	0	0	0	0	0	3	0	0	0	0
PM In	58	0	0	0	0	0	0	0	0	0	0	6	0
PM Out	92	0	0	0	0	0	0	0	9	0	0	0	0

Zone #	3	Cumulative Project #3

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											10%	
Y	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	0	0	0	0	0	0	0	0	0	0	0	0	0
PM In	26	0	0	0	0	0	0	0	0	0	0	3	0
PM Out	26	0	0	0	0	0	0	0	3	0	0	0	0

Zone #	4	Cumulative Project #5

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											5%	
Y	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	28	0	0	0	0	0	0	0	0	0	0	1	0
AM Out	19	0	0	0	0	0	0	0	1	0	0	0	0
PM In	66	0	0	0	0	0	0	0	0	0	0	3	0
PM Out	66	0	0	0	0	0	0	0	3	0	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	11	Topaz Avenue at Main Street

Y

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	0	0	0	0	0	0	0	70	0
AM Out		0	0	0	0	0	0	0	18	0	0	0	0
AM Tot		0	0	0	0	0	0	0	18	0	0	70	0
PM In		0	0	0	0	0	0	0	0	0	0	41	0
PM Out		0	0	0	0	0	0	0	61	0	0	0	0
PM Tot		0	0	0	0	0	0	0	61	0	0	41	0

Zone #	1	Cumulative Project #1

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											25%	
Y	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	226	0	0	0	0	0	0	0	0	0	0	57	0
AM Out	54	0	0	0	0	0	0	0	14	0	0	0	0
PM In	115	0	0	0	0	0	0	0	0	0	0	29	0
PM Out	182	0	0	0	0	0	0	0	46	0	0	0	0

Zone #	2	Cumulative Projects #2 and #4

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											10%	
Y	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	115	0	0	0	0	0	0	0	0	0	0	12	0
AM Out	27	0	0	0	0	0	0	0	3	0	0	0	0
PM In	58	0	0	0	0	0	0	0	0	0	0	6	0
PM Out	92	0	0	0	0	0	0	0	9	0	0	0	0

Zone #	3	Cumulative Project #3

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											10%	
Y	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	0	0	0	0	0	0	0	0	0	0	0	0	0
PM In	26	0	0	0	0	0	0	0	0	0	0	3	0
PM Out	26	0	0	0	0	0	0	0	3	0	0	0	0

Zone #	4	Cumulative Project #5

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											5%	
Y	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	28	0	0	0	0	0	0	0	0	0	0	1	0
AM Out	19	0	0	0	0	0	0	0	1	0	0	0	0
PM In	66	0	0	0	0	0	0	0	0	0	0	3	0
PM Out	66	0	0	0	0	0	0	0	3	0	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	12	eypointe Drive at South Fuel Entrance Drivewa

Y

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	29	0	0	0	0	0	0	0	0	0	0
AM Out		0	0	0	0	7	0	0	0	0	0	0	0
AM Tot		0	29	0	0	7	0	0	0	0	0	0	0
PM In		0	15	0	0	0	0	0	0	0	0	0	0
PM Out		0	0	0	0	23	0	0	0	0	0	0	0
PM Tot		0	15	0	0	23	0	0	0	0	0	0	0

Zone #	1	Cumulative Project #1

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	226	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	54	0	0	0	0	0	0	0	0	0	0	0	0
PM In	115	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	182	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	2	Cumulative Projects #2 and #4

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		25%										
Y	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	115	0	29	0	0	0	0	0	0	0	0	0	0
AM Out	27	0	0	0	0	7	0	0	0	0	0	0	0
PM In	58	0	15	0	0	0	0	0	0	0	0	0	0
PM Out	92	0	0	0	0	23	0	0	0	0	0	0	0

Zone #	3	Cumulative Project #3

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	0	0	0	0	0	0	0	0	0	0	0	0	0
PM In	26	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	26	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	4	Cumulative Project #5

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	28	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	19	0	0	0	0	0	0	0	0	0	0	0	0
PM In	66	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	66	0	0	0	0	0	0	0	0	0	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	13	osa Road at West Retail Driveway/West Fuel D

Y

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	0	0	0	0	69	0	0	0	0
AM Out		0	0	0	0	0	0	0	0	0	0	16	0
AM Tot		0	0	0	0	0	0	0	69	0	0	16	0
PM In		0	0	0	0	0	0	0	35	0	0	0	0
PM Out		0	0	0	0	0	0	0	0	0	0	55	0
PM Tot		0	0	0	0	0	0	0	35	0	0	55	0

Zone #	1	Cumulative Project #1

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	226	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	54	0	0	0	0	0	0	0	0	0	0	0	0
PM In	115	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	182	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	2	Cumulative Projects #2 and #4

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In								60%				
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	60%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	115	0	0	0	0	0	0	0	69	0	0	0	0
AM Out	27	0	0	0	0	0	0	0	0	0	0	16	0
PM In	58	0	0	0	0	0	0	0	35	0	0	0	0
PM Out	92	0	0	0	0	0	0	0	0	0	0	55	0

Zone #	3	Cumulative Project #3

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	0	0	0	0	0	0	0	0	0	0	0	0	0
PM In	26	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	26	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	4	Cumulative Project #5

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	28	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	19	0	0	0	0	0	0	0	0	0	0	0	0
PM In	66	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	66	0	0	0	0	0	0	0	0	0	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	14	a Road at East Retail Driveway/East Fuel Exit D

Y

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TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	0	0	0	0	69	0	0	0	0
AM Out		0	0	0	0	0	0	0	0	0	0	16	0
AM Tot		0	0	0	0	0	0	0	69	0	0	16	0
PM In		0	0	0	0	0	0	0	35	0	0	0	0
PM Out		0	0	0	0	0	0	0	0	0	0	55	0
PM Tot		0	0	0	0	0	0	0	35	0	0	55	0

Zone #	1	Cumulative Project #1

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	226	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	54	0	0	0	0	0	0	0	0	0	0	0	0
PM In	115	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	182	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	2	Cumulative Projects #2 and #4

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In								60%				
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	60%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	115	0	0	0	0	0	0	0	69	0	0	0	0
AM Out	27	0	0	0	0	0	0	0	0	0	0	16	0
PM In	58	0	0	0	0	0	0	0	35	0	0	0	0
PM Out	92	0	0	0	0	0	0	0	0	0	0	55	0

Zone #	3	Cumulative Project #3

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	0	0	0	0	0	0	0	0	0	0	0	0	0
PM In	26	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	26	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	4	Cumulative Project #5

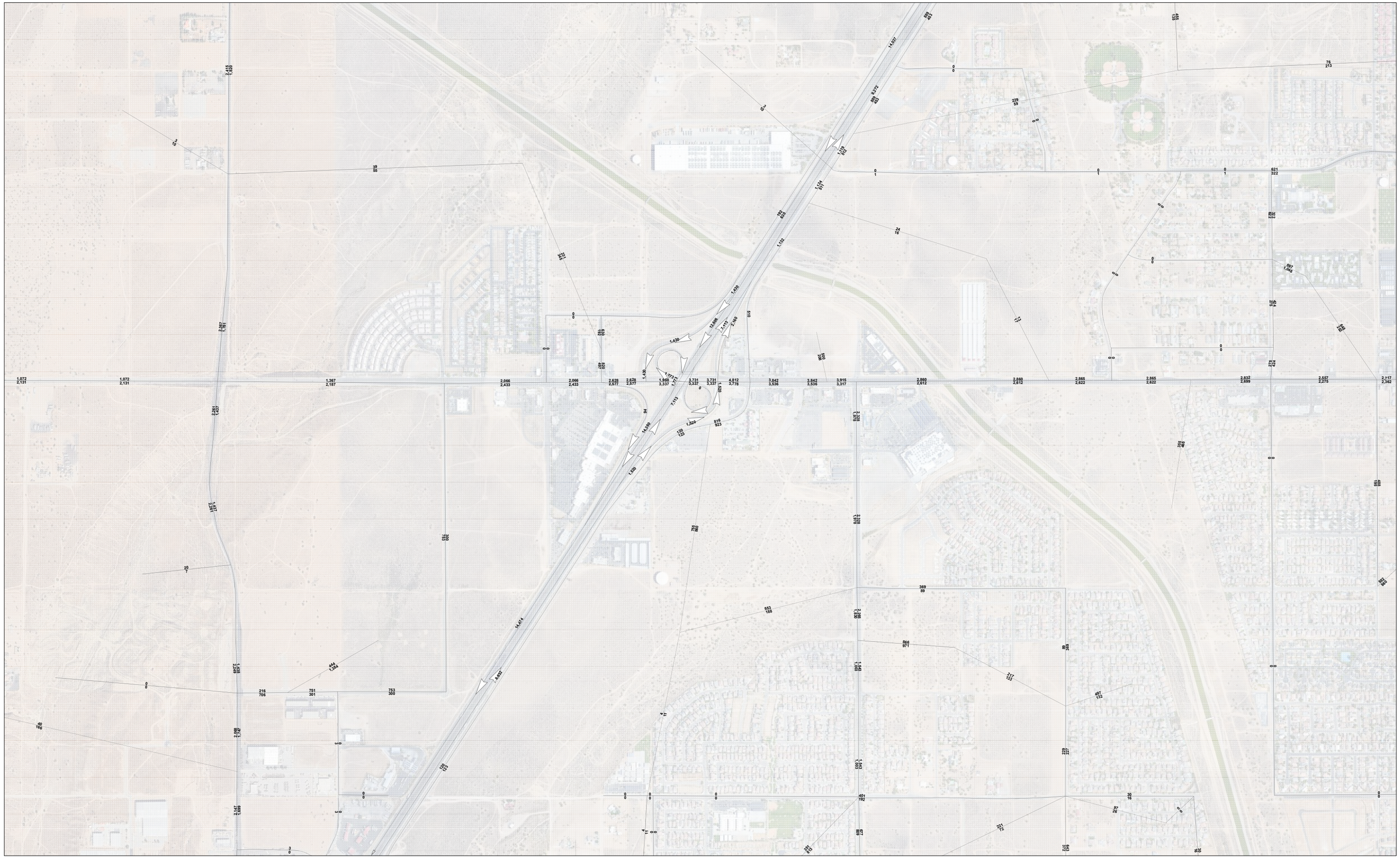
Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	28	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	19	0	0	0	0	0	0	0	0	0	0	0	0
PM In	66	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	66	0	0	0	0	0	0	0	0	0	0	0	0

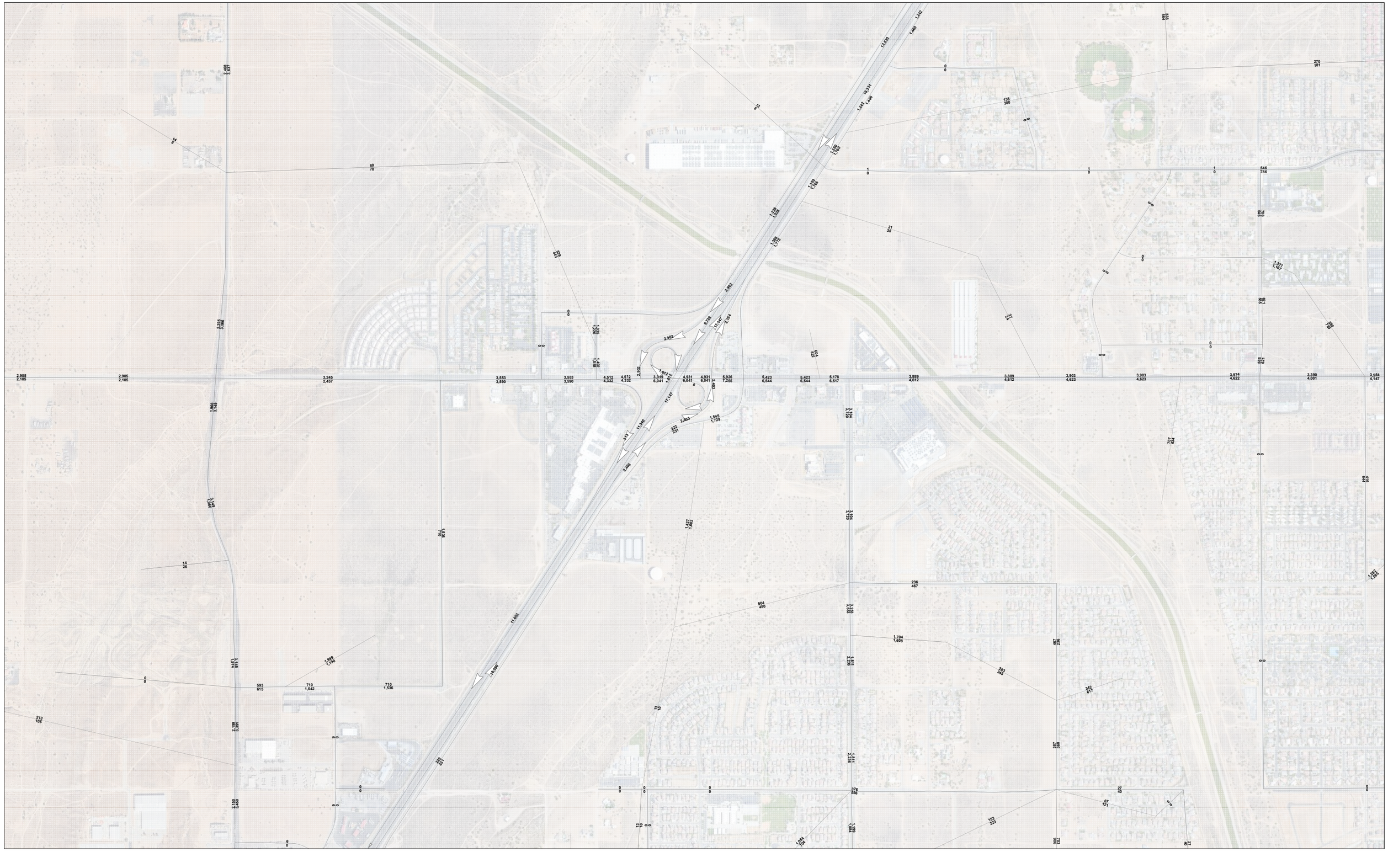
APPENDIX F

SBTAM MODEL PLOTS AND B-TURNS WORKSHEETS

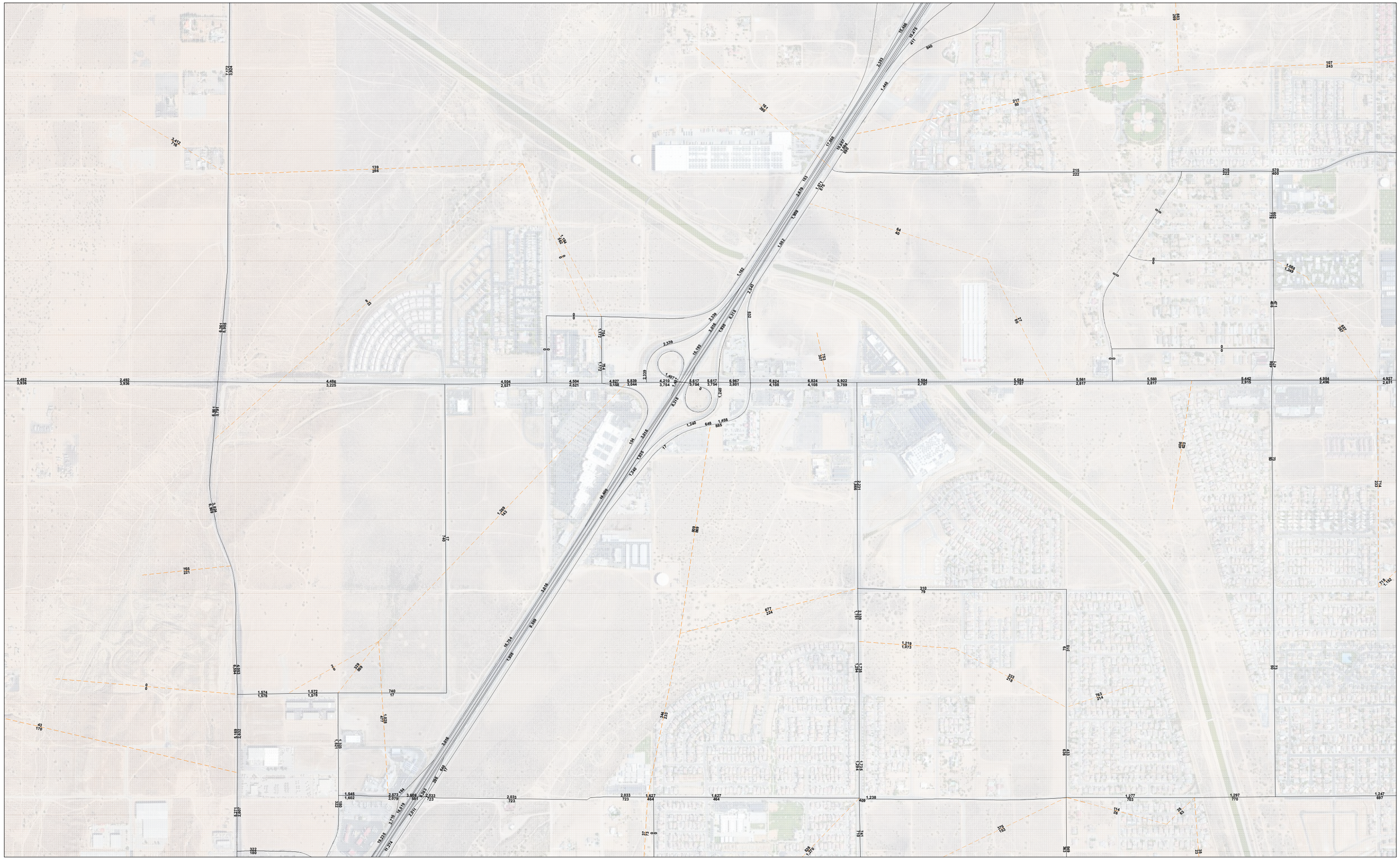
SBTAM 2019 AM Peak Period Volumes



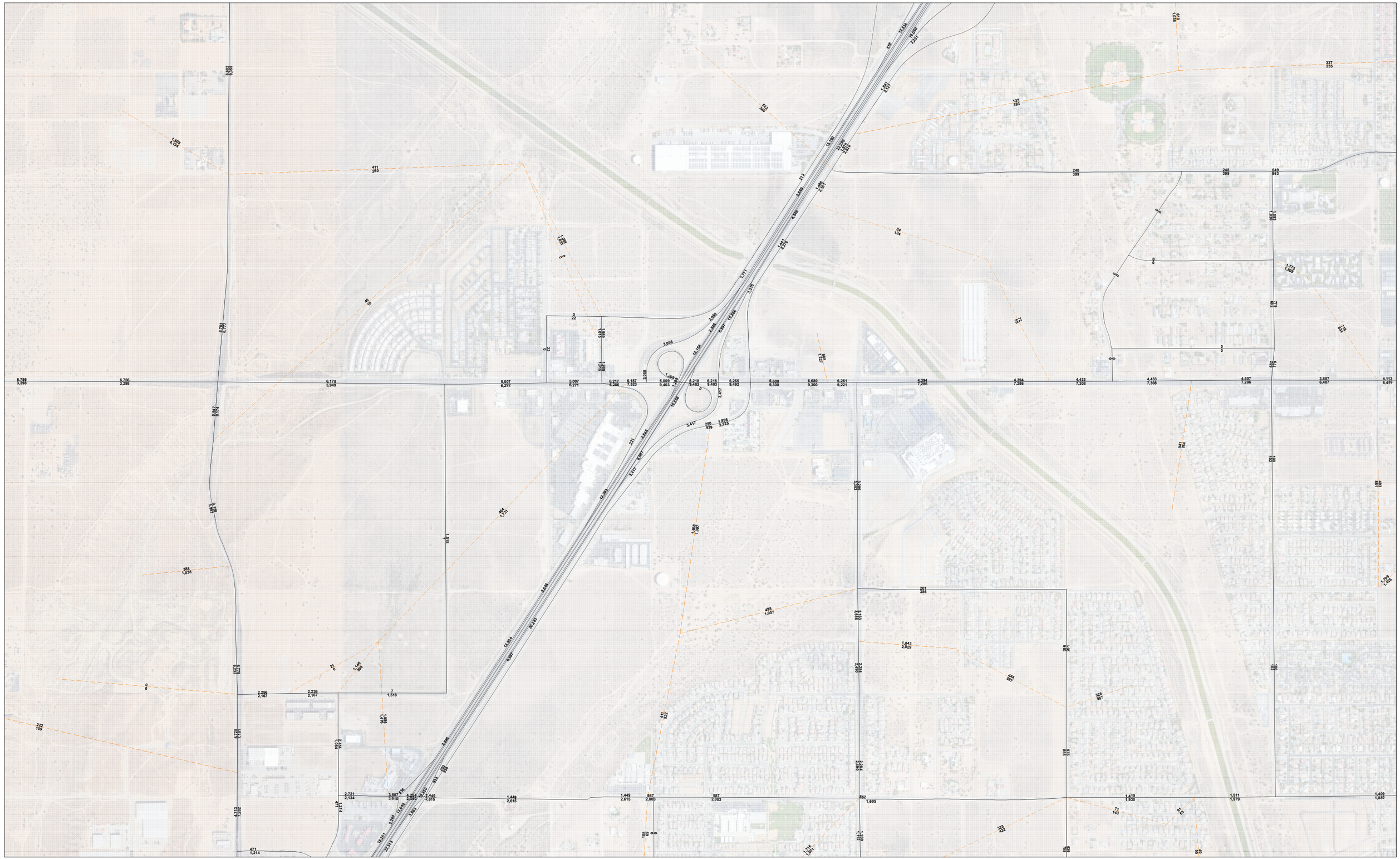
SBTAM 2019 PM Peak Period Volumes



SBTAM 2050 AM Peak Period Volumes



SBTAM 2050 PM Peak Period Volumes



Intersection: Keypointe Dri Amargosa Road

Condition: 2045 Build-out

Peak Hour: AM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG	FY TOTAL
NORTH	LEFT	5	SOUTH LEG	
BOUND	THRU	0	IN ...	179
	RIGHT	142	OUT ...	365
SOUTH	LEFT	0	NORTH LEG	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
EAST	LEFT	0	WEST LEG	
BOUND	THRU	77	IN ...	82
	RIGHT	5	OUT ...	54
WEST	LEFT	108	EAST LEG	
BOUND	THRU	49	IN ...	407
	RIGHT	0	OUT ...	248
		386		1,335

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	5	3
BOUND	THRU	0	0
	RIGHT	142	174
SOUTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
EAST	LEFT	0	0
BOUND	THRU	77	74
	RIGHT	5	7
WEST	LEFT	108	358
BOUND	THRU	49	51
	RIGHT	0	0
		386	668

Intersection: Keypointe Dri Amargosa Road

Condition: 2045 Build-out

Peak Hour: PM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG	FY TOTAL
NORTH BOUND	LEFT	6	SOUTH LEG	
	THRU	0	IN ...	431
	RIGHT	244	OUT ...	252
SOUTH BOUND	LEFT	0	NORTH LEG	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
EAST BOUND	LEFT	0	WEST LEG	
	THRU	116	IN ...	133
	RIGHT	13	OUT ...	148
WEST BOUND	LEFT	279	EAST LEG	
	THRU	142	IN ...	335
	RIGHT	0	OUT ...	500
		800		1,799

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	6	24
	THRU	0	0
	RIGHT	244	396
SOUTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	116	104
	RIGHT	13	27
WEST BOUND	LEFT	279	225
	THRU	142	124
	RIGHT	0	0
		800	900

Intersection: US-395 Phelan Road/Main Street

Condition: 2045 Build-out

Peak Hour: AM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG	FY TOTAL
NORTH	LEFT	48	SOUTH LEG	
BOUND	THRU	516	IN ...	1,178
	RIGHT	8	OUT ...	2,006
SOUTH	LEFT	230	NORTH LEG	
BOUND	THRU	702	IN ...	1,981
	RIGHT	21	OUT ...	1,801
EAST	LEFT	28	WEST LEG	
BOUND	THRU	702	IN ...	1,295
	RIGHT	100	OUT ...	731
WEST	LEFT	10	EAST LEG	
BOUND	THRU	296	IN ...	1,292
	RIGHT	183	OUT ...	1,207
		2,844		11,491

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	48	65
BOUND	THRU	516	1,108
	RIGHT	8	9
SOUTH	LEFT	230	261
BOUND	THRU	702	1,686
	RIGHT	21	29
EAST	LEFT	28	71
BOUND	THRU	702	937
	RIGHT	100	282
WEST	LEFT	10	38
BOUND	THRU	296	637
	RIGHT	183	622
		2,844	5,746

Intersection: US-395 Phelan Road/Main Street

Condition: 2045 Build-out

Peak Hour: PM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG	FY TOTAL
NORTH	LEFT	99	SOUTH LEG	
BOUND	THRU	885	IN ...	2,181
	RIGHT	54	OUT ...	1,341
SOUTH	LEFT	237	NORTH LEG	
BOUND	THRU	536	IN ...	2,020
	RIGHT	35	OUT ...	2,362
EAST	LEFT	36	WEST LEG	
BOUND	THRU	500	IN ...	806
	RIGHT	44	OUT ...	1,421
WEST	LEFT	6	EAST LEG	
BOUND	THRU	557	IN ...	1,572
	RIGHT	453	OUT ...	1,453
		3,442		13,157

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	99	293
BOUND	THRU	885	1,764
	RIGHT	54	125
SOUTH	LEFT	237	623
BOUND	THRU	536	1,277
	RIGHT	35	117
EAST	LEFT	36	44
BOUND	THRU	500	705
	RIGHT	44	56
WEST	LEFT	6	8
BOUND	THRU	557	1,011
	RIGHT	453	554
		3,442	6,578

Intersection: Mesa Linda St Main Street

Condition: 2045 Build-out

Peak Hour: AM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG		FY TOTAL
NORTH	LEFT	2	SOUTH LEG		
BOUND	THRU	1	IN	...	(44)
	RIGHT	26	OUT	...	63
SOUTH	LEFT	36	NORTH LEG		
BOUND	THRU	0	IN	...	47
	RIGHT	11	OUT	...	23
EAST	LEFT	5	WEST LEG		
BOUND	THRU	915	IN	...	1,196
	RIGHT	9	OUT	...	1,403
WEST	LEFT	57	EAST LEG		
BOUND	THRU	587	IN	...	1,289
	RIGHT	17	OUT	...	1,000
		1,666			4,976

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	2	(14)
BOUND	THRU	1	(2)
	RIGHT	26	(25)
SOUTH	LEFT	36	15
BOUND	THRU	0	0
	RIGHT	11	34
EAST	LEFT	5	13
BOUND	THRU	915	1,010
	RIGHT	9	22
WEST	LEFT	57	40
BOUND	THRU	587	1,384
	RIGHT	17	12
		1,666	2,488

Intersection: Mesa Linda St Main Street

Condition: 2045 Build-out

Peak Hour: PM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG		FY TOTAL
NORTH	LEFT	15	SOUTH LEG		
BOUND	THRU	2	IN	...	94
	RIGHT	80	OUT	...	(75)
SOUTH	LEFT	23	NORTH LEG		
BOUND	THRU	1	IN	...	25
	RIGHT	1	OUT	...	52
EAST	LEFT	6	WEST LEG		
BOUND	THRU	880	IN	...	1,562
	RIGHT	14	OUT	...	1,570
WEST	LEFT	43	EAST LEG		
BOUND	THRU	998	IN	...	1,361
	RIGHT	44	OUT	...	1,496
		2,107			6,084

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	15	45
BOUND	THRU	2	3
	RIGHT	80	45
SOUTH	LEFT	23	20
BOUND	THRU	1	(2)
	RIGHT	1	5
EAST	LEFT	6	22
BOUND	THRU	880	1,430
	RIGHT	14	(48)
WEST	LEFT	43	(26)
BOUND	THRU	998	1,520
	RIGHT	44	28
		2,107	3,042

Intersection: Cataba Road Main Street

Condition: 2045 Build-out

Peak Hour: AM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG	FY TOTAL
NORTH BOUND	LEFT	50	SOUTH LEG	
	THRU	13	IN ...	172
	RIGHT	109	OUT ...	234
SOUTH BOUND	LEFT	34	NORTH LEG	
	THRU	9	IN ...	89
	RIGHT	46	OUT ...	94
EAST BOUND	LEFT	63	WEST LEG	
	THRU	740	IN ...	913
	RIGHT	87	OUT ...	1,270
WEST BOUND	LEFT	138	EAST LEG	
	THRU	546	IN ...	1,330
	RIGHT	18	OUT ...	906
		1,853		5,006

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	50	62
	THRU	13	10
	RIGHT	109	99
SOUTH BOUND	LEFT	34	29
	THRU	9	6
	RIGHT	46	54
EAST BOUND	LEFT	63	59
	THRU	740	777
	RIGHT	87	68
WEST BOUND	LEFT	138	160
	THRU	546	1,154
	RIGHT	18	25
		1,853	2,503

Intersection: Cataba Road Main Street

Condition: 2045 Build-out

Peak Hour: PM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG		FY TOTAL
NORTH	LEFT	151	SOUTH LEG		
BOUND	THRU	47	IN	...	382
	RIGHT	184	OUT	...	352
SOUTH	LEFT	40	NORTH LEG		
BOUND	THRU	39	IN	...	193
	RIGHT	114	OUT	...	162
EAST	LEFT	83	WEST LEG		
BOUND	THRU	714	IN	...	1,450
	RIGHT	140	OUT	...	1,327
WEST	LEFT	173	EAST LEG		
BOUND	THRU	786	IN	...	1,263
	RIGHT	28	OUT	...	1,447
		2,499			6,575

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	151	147
BOUND	THRU	47	36
	RIGHT	184	199
SOUTH	LEFT	40	46
BOUND	THRU	39	29
	RIGHT	114	118
EAST	LEFT	83	97
BOUND	THRU	714	1,201
	RIGHT	140	153
WEST	LEFT	173	169
BOUND	THRU	786	1,062
	RIGHT	28	29
		2,499	3,287

Intersection: Keypointe Dri Main Street

Condition: 2045 Build-out

Peak Hour: AM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG	FY TOTAL
NORTH	LEFT	7	SOUTH LEG	
BOUND	THRU	10	IN ...	73
	RIGHT	56	OUT ...	164
SOUTH	LEFT	113	NORTH LEG	
BOUND	THRU	24	IN ...	321
	RIGHT	10	OUT ...	133
EAST	LEFT	20	WEST LEG	
BOUND	THRU	944	IN ...	996
	RIGHT	9	OUT ...	1,279
WEST	LEFT	128	EAST LEG	
BOUND	THRU	634	IN ...	1,448
	RIGHT	120	OUT ...	1,263
		2,075		5,675

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	7	10
BOUND	THRU	10	7
	RIGHT	56	55
SOUTH	LEFT	113	247
BOUND	THRU	24	38
	RIGHT	10	33
EAST	LEFT	20	15
BOUND	THRU	944	960
	RIGHT	9	7
WEST	LEFT	128	119
BOUND	THRU	634	1,235
	RIGHT	120	111
		2,075	2,838

Intersection: Keypointe Dri Main Street

Condition: 2045 Build-out

Peak Hour: PM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG		FY TOTAL
NORTH BOUND	LEFT	30	SOUTH LEG		
	THRU	48	IN	...	295
	RIGHT	217	OUT	...	352
SOUTH BOUND	LEFT	218	NORTH LEG		
	THRU	80	IN	...	208
	RIGHT	19	OUT	...	360
EAST BOUND	LEFT	38	WEST LEG		
	THRU	933	IN	...	1,500
	RIGHT	20	OUT	...	1,338
WEST BOUND	LEFT	269	EAST LEG		
	THRU	1,013	IN	...	1,785
	RIGHT	180	OUT	...	1,739
		3,065			7,576

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	30	34
	THRU	48	56
	RIGHT	217	204
SOUTH BOUND	LEFT	218	142
	THRU	80	50
	RIGHT	19	15
EAST BOUND	LEFT	38	70
	THRU	933	1,392
	RIGHT	20	29
WEST BOUND	LEFT	269	272
	THRU	1,013	1,289
	RIGHT	180	234
		3,065	3,788

Intersection: I-15 SB Ramps Main Street

Condition: 2045 Build-out

Peak Hour: AM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG	FY TOTAL
NORTH	LEFT	0	SOUTH LEG	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	85
SOUTH	LEFT	235	NORTH LEG	
BOUND	THRU	0	IN ...	641
	RIGHT	172	OUT ...	503
EAST	LEFT	0	WEST LEG	
BOUND	THRU	1032	IN ...	1,237
	RIGHT	85	OUT ...	1,718
WEST	LEFT	0	EAST LEG	
BOUND	THRU	719	IN ...	1,802
	RIGHT	503	OUT ...	1,374
		2,746		7,360

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
SOUTH	LEFT	235	252
BOUND	THRU	0	0
	RIGHT	172	389
EAST	LEFT	0	0
BOUND	THRU	1,032	1,123
	RIGHT	85	85
WEST	LEFT	0	0
BOUND	THRU	719	1,329
	RIGHT	503	503
		2,746	3,680

Intersection: I-15 SB Ramps Main Street

Condition: 2045 Build-out

Peak Hour: PM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG	FY TOTAL
NORTH	LEFT	0	SOUTH LEG	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	138
SOUTH	LEFT	470	NORTH LEG	
BOUND	THRU	0	IN ...	791
	RIGHT	291	OUT ...	342
EAST	LEFT	0	WEST LEG	
BOUND	THRU	1,180	IN ...	1,923
	RIGHT	138	OUT ...	1,740
WEST	LEFT	0	EAST LEG	
BOUND	THRU	1,131	IN ...	1,794
	RIGHT	342	OUT ...	2,288
		3,552		9,015

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
SOUTH	LEFT	470	498
BOUND	THRU	0	0
	RIGHT	291	293
EAST	LEFT	0	0
BOUND	THRU	1,180	1,790
	RIGHT	138	138
WEST	LEFT	0	0
BOUND	THRU	1,131	1,446
	RIGHT	342	342
		3,552	4,507

Intersection: I-15 NB Ramps Main Street

Condition: 2045 Build-out

Peak Hour: AM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG	FY TOTAL
NORTH BOUND	LEFT	57	SOUTH LEG	
	THRU	2	IN ...	370
	RIGHT	383	OUT ...	274
SOUTH BOUND	LEFT	0	NORTH LEG	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	573
EAST BOUND	LEFT	0	WEST LEG	
	THRU	1005	IN ...	1,386
	RIGHT	274	OUT ...	1,659
WEST BOUND	LEFT	0	EAST LEG	
	THRU	1117	IN ...	2,144
	RIGHT	472	OUT ...	1,394
		3,310		7,800

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	57	60
	THRU	2	2
	RIGHT	383	304
SOUTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	1,005	1,090
	RIGHT	274	274
WEST BOUND	LEFT	0	0
	THRU	1,117	1,600
	RIGHT	472	571
		3,310	3,900

Intersection: I-15 NB Ramps Main Street

Condition: 2045 Build-out

Peak Hour: PM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG	FY TOTAL
NORTH	LEFT	183	SOUTH LEG	
BOUND	THRU	4	IN ...	1,110
	RIGHT	731	OUT ...	251
SOUTH	LEFT	0	NORTH LEG	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	621
EAST	LEFT	0	WEST LEG	
BOUND	THRU	1,372	IN ...	2,261
	RIGHT	251	OUT ...	1,703
WEST	LEFT	0	EAST LEG	
BOUND	THRU	1,276	IN ...	1,731
	RIGHT	391	OUT ...	2,527
		4,208		10,205

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	183	483
BOUND	THRU	4	17
	RIGHT	731	608
SOUTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
EAST	LEFT	0	0
BOUND	THRU	1,372	1,919
	RIGHT	251	251
WEST	LEFT	0	0
BOUND	THRU	1,276	1,220
	RIGHT	391	604
		4,208	5,102

Intersection: Mariposa Road Main Street

Condition: 2045 Build-out

Peak Hour: AM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG		FY TOTAL
NORTH BOUND	LEFT	70	SOUTH LEG		
	THRU	46	IN	...	155
	RIGHT	49	OUT	...	495
SOUTH BOUND	LEFT	67	NORTH LEG		
	THRU	114	IN	...	451
	RIGHT	162	OUT	...	228
EAST BOUND	LEFT	122	WEST LEG		
	THRU	1115	IN	...	1,357
	RIGHT	114	OUT	...	2,088
WEST BOUND	LEFT	102	EAST LEG		
	THRU	1301	IN	...	2,225
	RIGHT	54	OUT	...	1,378
		3,316			8,376

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	70	50
	THRU	46	41
	RIGHT	49	65
SOUTH BOUND	LEFT	67	122
	THRU	114	170
	RIGHT	162	159
EAST BOUND	LEFT	122	89
	THRU	1,115	1,192
	RIGHT	114	100
WEST BOUND	LEFT	102	224
	THRU	1,301	1,878
	RIGHT	54	98
		3,316	4,188

Intersection: Mariposa Road Main Street

Condition: 2045 Build-out

Peak Hour: PM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG		FY TOTAL
NORTH BOUND	LEFT	100	SOUTH LEG		
	THRU	95	IN	...	351
	RIGHT	62	OUT	...	430
SOUTH BOUND	LEFT	142	NORTH LEG		
	THRU	96	IN	...	450
	RIGHT	202	OUT	...	598
EAST BOUND	LEFT	283	WEST LEG		
	THRU	1,637	IN	...	2,531
	RIGHT	187	OUT	...	1,675
WEST BOUND	LEFT	80	EAST LEG		
	THRU	1,309	IN	...	1,734
	RIGHT	107	OUT	...	2,364
		4,300			10,134

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	100	101
	THRU	95	139
	RIGHT	62	111
SOUTH BOUND	LEFT	142	190
	THRU	96	107
	RIGHT	202	153
EAST BOUND	LEFT	283	292
	THRU	1,637	2,063
	RIGHT	187	196
WEST BOUND	LEFT	80	127
	THRU	1,309	1,421
	RIGHT	107	167
		4,300	5,067

Intersection: Mountain Vist Main Street

Condition: 2045 Build-out

Peak Hour: AM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG	FY TOTAL
NORTH BOUND	LEFT	13	SOUTH LEG	
	THRU	0	IN ...	31
	RIGHT	18	OUT ...	70
SOUTH BOUND	LEFT	102	NORTH LEG	
	THRU	3	IN ...	136
	RIGHT	31	OUT ...	120
EAST BOUND	LEFT	26	WEST LEG	
	THRU	1196	IN ...	1,377
	RIGHT	8	OUT ...	2,271
WEST BOUND	LEFT	59	EAST LEG	
	THRU	1459	IN ...	2,380
	RIGHT	94	OUT ...	1,463
		3,009		7,848

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	13	13
	THRU	0	0
	RIGHT	18	17
SOUTH BOUND	LEFT	102	101
	THRU	3	2
	RIGHT	31	33
EAST BOUND	LEFT	26	21
	THRU	1,196	1,345
	RIGHT	8	7
WEST BOUND	LEFT	59	61
	THRU	1,459	2,224
	RIGHT	94	99
		3,009	3,924

Intersection: Mountain Vist Main Street

Condition: 2045 Build-out

Peak Hour: PM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG		FY TOTAL
NORTH BOUND	LEFT	63	SOUTH LEG		
	THRU	4	IN	...	110
	RIGHT	43	OUT	...	124
SOUTH BOUND	LEFT	68	NORTH LEG		
	THRU	7	IN	...	93
	RIGHT	18	OUT	...	87
EAST BOUND	LEFT	35	WEST LEG		
	THRU	1,808	IN	...	2,395
	RIGHT	29	OUT	...	1,830
WEST BOUND	LEFT	88	EAST LEG		
	THRU	1,511	IN	...	1,885
	RIGHT	48	OUT	...	2,442
		3,722			8,966

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	63	63
	THRU	4	3
	RIGHT	43	44
SOUTH BOUND	LEFT	68	69
	THRU	7	6
	RIGHT	18	18
EAST BOUND	LEFT	35	37
	THRU	1,808	2,329
	RIGHT	29	31
WEST BOUND	LEFT	88	87
	THRU	1,511	1,749
	RIGHT	48	47
		3,722	4,483

Intersection: Escondido Ave Main Street

Condition: 2045 Build-out

Peak Hour: AM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG	FY TOTAL
NORTH	LEFT	626	SOUTH LEG	
BOUND	THRU	14	IN ...	940
	RIGHT	325	OUT ...	721
SOUTH	LEFT	3	NORTH LEG	
BOUND	THRU	2	IN ...	17
	RIGHT	12	OUT ...	30
EAST	LEFT	10	WEST LEG	
BOUND	THRU	863	IN ...	1,417
	RIGHT	430	OUT ...	2,241
WEST	LEFT	318	EAST LEG	
BOUND	THRU	829	IN ...	1,854
	RIGHT	6	OUT ...	1,236
		3,438		8,456

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	626	693
BOUND	THRU	14	11
	RIGHT	325	238
SOUTH	LEFT	3	2
BOUND	THRU	2	1
	RIGHT	12	14
EAST	LEFT	10	12
BOUND	THRU	863	996
	RIGHT	430	403
WEST	LEFT	318	317
BOUND	THRU	829	1,535
	RIGHT	6	8
		3,438	4,228

Intersection: Escondido Ave Main Street

Condition: 2045 Build-out

Peak Hour: PM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG	FY TOTAL
NORTH	LEFT	473	SOUTH LEG	
BOUND	THRU	221	IN ...	1,030
	RIGHT	302	OUT ...	972
SOUTH	LEFT	49	NORTH LEG	
BOUND	THRU	37	IN ...	310
	RIGHT	224	OUT ...	273
EAST	LEFT	45	WEST LEG	
BOUND	THRU	1,215	IN ...	2,370
	RIGHT	597	OUT ...	1,886
WEST	LEFT	408	EAST LEG	
BOUND	THRU	984	IN ...	1,495
	RIGHT	7	OUT ...	2,073
		4,562		10,410

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	473	505
BOUND	THRU	221	209
	RIGHT	302	317
SOUTH	LEFT	49	50
BOUND	THRU	37	27
	RIGHT	224	233
EAST	LEFT	45	57
BOUND	THRU	1,215	1,706
	RIGHT	597	606
WEST	LEFT	408	339
BOUND	THRU	984	1,149
	RIGHT	7	7
		4,562	5,205

Intersection: Topaz Avenue Main Street

Condition: 2045 Build-out

Peak Hour: AM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG	FY TOTAL
NORTH	LEFT	175	SOUTH LEG	
BOUND	THRU	70	IN ...	316
	RIGHT	52	OUT ...	212
SOUTH	LEFT	110	NORTH LEG	
BOUND	THRU	76	IN ...	328
	RIGHT	88	OUT ...	247
EAST	LEFT	62	WEST LEG	
BOUND	THRU	1073	IN ...	1,286
	RIGHT	95	OUT ...	1,860
WEST	LEFT	28	EAST LEG	
BOUND	THRU	925	IN ...	1,681
	RIGHT	103	OUT ...	1,292
		2,857		7,221

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	175	207
BOUND	THRU	70	61
	RIGHT	52	49
SOUTH	LEFT	110	123
BOUND	THRU	76	81
	RIGHT	88	124
EAST	LEFT	62	60
BOUND	THRU	1,073	1,121
	RIGHT	95	95
WEST	LEFT	28	35
BOUND	THRU	925	1,529
	RIGHT	103	126
		2,857	3,611

Intersection: Topaz Avenue Main Street

Condition: 2045 Build-out

Peak Hour: PM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG		FY TOTAL
NORTH BOUND	LEFT	162	SOUTH LEG		
	THRU	33	IN	...	273
	RIGHT	59	OUT	...	310
SOUTH BOUND	LEFT	53	NORTH LEG		
	THRU	34	IN	...	151
	RIGHT	46	OUT	...	171
EAST BOUND	LEFT	51	WEST LEG		
	THRU	1,257	IN	...	2,000
	RIGHT	202	OUT	...	1,500
WEST BOUND	LEFT	55	EAST LEG		
	THRU	1,191	IN	...	1,397
	RIGHT	57	OUT	...	1,841
		3,200			7,644

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	162	170
	THRU	33	37
	RIGHT	59	66
SOUTH BOUND	LEFT	53	65
	THRU	34	34
	RIGHT	46	53
EAST BOUND	LEFT	51	69
	THRU	1,257	1,709
	RIGHT	202	225
WEST BOUND	LEFT	55	52
	THRU	1,191	1,278
	RIGHT	57	65
		3,200	3,822

Intersection: Keypointe Dri South Fuel Entrance Driveway

Condition: 2045 Build-out

Peak Hour: AM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG	FY TOTAL
NORTH	LEFT	0	SOUTH LEG	
BOUND	THRU	147	IN ...	179
	RIGHT	0	OUT ...	365
SOUTH	LEFT	0	NORTH LEG	
BOUND	THRU	113	IN ...	365
	RIGHT	0	OUT ...	179
EAST	LEFT	0	WEST LEG	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST	LEFT	0	EAST LEG	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
		260		1,088

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	0	0
BOUND	THRU	147	179
	RIGHT	0	0
SOUTH	LEFT	0	0
BOUND	THRU	113	365
	RIGHT	0	0
EAST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
WEST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
		260	544

Intersection: Keypointe Dri South Fuel Entrance Driveway

Condition: 2045 Build-out

Peak Hour: PM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG	FY TOTAL
NORTH	LEFT	0	SOUTH LEG	
BOUND	THRU	250	IN ...	431
	RIGHT	0	OUT ...	252
SOUTH	LEFT	0	NORTH LEG	
BOUND	THRU	292	IN ...	252
	RIGHT	0	OUT ...	431
EAST	LEFT	0	WEST LEG	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST	LEFT	0	EAST LEG	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
		542		1,366

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	0	0
BOUND	THRU	250	431
	RIGHT	0	0
SOUTH	LEFT	0	0
BOUND	THRU	292	252
	RIGHT	0	0
EAST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
WEST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
		542	683

Intersection: Amargosa Road West Retail Driveway/West Fuel Driveway

Condition: 2045 Build-out

Peak Hour: AM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG		FY TOTAL
NORTH	LEFT	0	SOUTH LEG		
BOUND	THRU	0	IN	...	0
	RIGHT	0	OUT	...	0
SOUTH	LEFT	0	NORTH LEG		
BOUND	THRU	0	IN	...	0
	RIGHT	0	OUT	...	0
EAST	LEFT	0	WEST LEG		
BOUND	THRU	219	IN	...	356
	RIGHT	0	OUT	...	407
WEST	LEFT	0	EAST LEG		
BOUND	THRU	157	IN	...	407
	RIGHT	0	OUT	...	356
		376			1,525

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
SOUTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
EAST	LEFT	0	0
BOUND	THRU	219	356
	RIGHT	0	0
WEST	LEFT	0	0
BOUND	THRU	157	407
	RIGHT	0	0
		376	763

Intersection: Amargosa Road West Retail Driveway/West Fuel Driveway

Condition: 2045 Build-out

Peak Hour: PM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG		FY TOTAL
NORTH	LEFT	0	SOUTH LEG		
BOUND	THRU	0	IN	...	0
	RIGHT	0	OUT	...	0
SOUTH	LEFT	0	NORTH LEG		
BOUND	THRU	0	IN	...	0
	RIGHT	0	OUT	...	0
EAST	LEFT	0	WEST LEG		
BOUND	THRU	360	IN	...	500
	RIGHT	0	OUT	...	524
WEST	LEFT	0	EAST LEG		
BOUND	THRU	421	IN	...	524
	RIGHT	0	OUT	...	500
		781			2,048

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
SOUTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
EAST	LEFT	0	0
BOUND	THRU	360	500
	RIGHT	0	0
WEST	LEFT	0	0
BOUND	THRU	421	524
	RIGHT	0	0
		781	1,024

Intersection: Amargosa Road East Retail Driveway/East Fuel Exit D:

Condition: 2045 Build-out

Peak Hour: AM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG		FY TOTAL
NORTH	LEFT	0	SOUTH LEG		
BOUND	THRU	0	IN	...	0
	RIGHT	0	OUT	...	0
SOUTH	LEFT	0	NORTH LEG		
BOUND	THRU	0	IN	...	0
	RIGHT	0	OUT	...	0
EAST	LEFT	0	WEST LEG		
BOUND	THRU	219	IN	...	356
	RIGHT	0	OUT	...	407
WEST	LEFT	0	EAST LEG		
BOUND	THRU	157	IN	...	407
	RIGHT	0	OUT	...	356
		376			1,525

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
SOUTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
EAST	LEFT	0	0
BOUND	THRU	219	356
	RIGHT	0	0
WEST	LEFT	0	0
BOUND	THRU	157	407
	RIGHT	0	0
		376	763

Intersection: Amargosa Road East Retail Driveway/East Fuel Exit D:

Condition: 2045 Build-out

Peak Hour: PM Peak Hour

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	INTERSECTION LEG		FY TOTAL
NORTH	LEFT	0	SOUTH LEG		
BOUND	THRU	0	IN	...	0
	RIGHT	0	OUT	...	0
SOUTH	LEFT	0	NORTH LEG		
BOUND	THRU	0	IN	...	0
	RIGHT	0	OUT	...	0
EAST	LEFT	0	WEST LEG		
BOUND	THRU	360	IN	...	500
	RIGHT	0	OUT	...	524
WEST	LEFT	0	EAST LEG		
BOUND	THRU	421	IN	...	524
	RIGHT	0	OUT	...	500
		781			2,048

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
SOUTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
EAST	LEFT	0	0
BOUND	THRU	360	500
	RIGHT	0	0
WEST	LEFT	0	0
BOUND	THRU	421	524
	RIGHT	0	0
		781	1,024

APPENDIX G

ITE HOURLY DISTRIBUTION PERCENTAGES

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

*Modified for Store Operating Hours

Land Use Code	820		
Land Use	Shopping Center (>150k)		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	24		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.0%	0.0%	0.0%
1:00 - 2:00 AM	0.0%	0.0%	0.0%
2:00 - 3:00 AM	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.0%	0.0%	0.0%
4:00 - 5:00 AM	0.0%	0.0%	0.0%
5:00 - 6:00 AM	0.0%	0.0%	0.0%
6:00 - 7:00 AM	0.7%	0.9%	0.5%
7:00 - 8:00 AM	1.6%	2.0%	1.3%
8:00 - 9:00 AM	2.4%	3.0%	1.9%
9:00 - 10:00 AM	4.0%	5.0%	3.2%
10:00 - 11:00 AM	6.1%	7.1%	5.4%
11:00 - 12:00 PM	7.9%	8.6%	7.5%
12:00 - 1:00 PM	9.2%	9.8%	9.1%
1:00 - 2:00 PM	8.8%	8.9%	9.2%
2:00 - 3:00 PM	8.2%	8.0%	8.8%
3:00 - 4:00 PM	8.3%	8.2%	8.7%
4:00 - 5:00 PM	8.7%	8.7%	9.0%
5:00 - 6:00 PM	8.8%	8.9%	9.1%
6:00 - 7:00 PM	7.7%	7.8%	8.0%
7:00 - 8:00 PM	6.8%	6.7%	7.1%
8:00 - 9:00 PM	5.3%	4.4%	6.5%
9:00 - 10:00 PM	3.3%	1.9%	4.7%
10:00 - 11:00 PM	0.0%	0.0%	0.0%
11:00 - 12:00 AM	0.0%	0.0%	0.0%

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

*Modified for Store Operating Hours

Land Use Code	944 (For LU 944 and LU 948)		
Land Use	Gasoline/Service Station		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	16		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.0%	0.0%	0.0%
1:00 - 2:00 AM	0.0%	0.0%	0.0%
2:00 - 3:00 AM	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.0%	0.0%	0.0%
4:00 - 5:00 AM	0.0%	0.0%	0.0%
5:00 - 6:00 AM	0.0%	0.0%	0.0%
6:00 - 7:00 AM	2.8%	3.2%	2.8%
7:00 - 8:00 AM	5.0%	5.4%	5.3%
8:00 - 9:00 AM	5.4%	5.7%	5.9%
9:00 - 10:00 AM	4.9%	5.3%	5.2%
10:00 - 11:00 AM	4.4%	4.7%	4.8%
11:00 - 12:00 PM	6.0%	6.5%	6.4%
12:00 - 1:00 PM	6.6%	7.1%	7.1%
1:00 - 2:00 PM	6.0%	6.6%	6.4%
2:00 - 3:00 PM	6.3%	6.9%	6.6%
3:00 - 4:00 PM	7.2%	7.9%	7.5%
4:00 - 5:00 PM	7.4%	8.0%	7.9%
5:00 - 6:00 PM	7.5%	8.0%	8.2%
6:00 - 7:00 PM	7.7%	8.4%	8.3%
7:00 - 8:00 PM	6.1%	6.4%	6.8%
8:00 - 9:00 PM	5.5%	5.7%	6.2%
9:00 - 10:00 PM	4.0%	4.1%	4.4%
10:00 - 11:00 PM	0.0%	0.0%	0.0%
11:00 - 12:00 AM	0.0%	0.0%	0.0%

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	154		
Land Use	High-Cube Transload and Short-Term Storage Warehouse		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	3		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	1.5%	1.0%	2.0%
1:00 - 2:00 AM	1.4%	0.9%	2.0%
2:00 - 3:00 AM	1.0%	0.8%	1.2%
3:00 - 4:00 AM	0.4%	0.4%	0.3%
4:00 - 5:00 AM	2.3%	1.3%	3.2%
5:00 - 6:00 AM	4.1%	3.1%	5.1%
6:00 - 7:00 AM	6.2%	10.2%	2.1%
7:00 - 8:00 AM	4.8%	7.3%	2.3%
8:00 - 9:00 AM	3.9%	5.1%	2.8%
9:00 - 10:00 AM	7.2%	11.8%	2.6%
10:00 - 11:00 AM	6.2%	9.5%	2.9%
11:00 - 12:00 PM	3.7%	3.8%	3.7%
12:00 - 1:00 PM	6.0%	5.1%	6.9%
1:00 - 2:00 PM	5.9%	5.9%	5.9%
2:00 - 3:00 PM	5.2%	6.0%	4.3%
3:00 - 4:00 PM	7.6%	5.3%	10.0%
4:00 - 5:00 PM	4.7%	3.1%	6.3%
5:00 - 6:00 PM	5.0%	2.2%	7.8%
6:00 - 7:00 PM	5.7%	2.7%	8.8%
7:00 - 8:00 PM	7.6%	5.8%	9.4%
8:00 - 9:00 PM	5.6%	5.4%	5.8%
9:00 - 10:00 PM	1.1%	0.6%	1.5%
10:00 - 11:00 PM	1.3%	1.2%	1.4%
11:00 - 12:00 AM	1.6%	1.3%	1.9%

APPENDIX H

SIGNAL WARRANT ANALYSIS SHEETS

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2000 MUTCD)

MAJOR STREET:	Amargosa Rd	EB	WB	# OF APPROACH LANES:	2
MINOR STREET:	Key Pointe Ave	NB	SB	# OF APPROACH LANES:	2
CITY, STATE:	Hesperia, CA				
COMMENTS:	Traffic volumes derived using ITE Trip Generation and daily distribution percentage information.				
	Existing 2024 Volumes				

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): Y

			Amargosa Rd			Key Pointe Ave		
			EB Approach	WB Approach	Total	NB Approach	SB Approach	Minor Street Heavy Leg
06:00 AM	TO	07:00 AM	44	126	170	71		71
07:00 AM	TO	08:00 AM	56	176	232	145		145
08:00 AM	TO	09:00 AM	92	190	282	126		126
09:00 AM	TO	10:00 AM	90	240	330	163		163
10:00 AM	TO	11:00 AM	126	292	418	197		197
11:00 AM	TO	12:00 PM	125	335	460	234		234
12:00 PM	TO	01:00 PM	133	409	542	268		268
01:00 PM	TO	02:00 PM	134	425	559	239		239
02:00 PM	TO	03:00 PM	170	424	594	296		296
03:00 PM	TO	04:00 PM	178	374	552	259		259
04:00 PM	TO	05:00 PM	152	424	576	275		275
05:00 PM	TO	06:00 PM	125	389	514	293		293
06:00 PM	TO	07:00 PM	106	310	416	238		238
07:00 PM	TO	08:00 PM	95	300	395	190		190
08:00 PM	TO	09:00 PM	74	281	355	170		170
09:00 PM	TO	10:00 PM	48	219	267	160		160

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Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2000 MUTCD)

MAJOR STREET: **Amargosa Rd** EB WB # OF APPROACH LANES: **2**

MINOR STREET: **Key Pointe Ave** NB SB # OF APPROACH LANES: **2**

CITY, STATE: **Hesperia, CA**

COMMENTS: Traffic volumes derived using ITE Trip Generation and daily distribution percentage information.
Existing 2024 Volumes

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **Y**

			MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
					MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES				→	**420**	**140**		**630**	**70**		**336**	**112**		**504**	**56**			
06:00 AM	TO	07:00 AM	170	71					Y						Y			
07:00 AM	TO	08:00 AM	232	145		Y			Y			Y			Y			
08:00 AM	TO	09:00 AM	282	126					Y			Y			Y			
09:00 AM	TO	10:00 AM	330	163		Y			Y			Y			Y			
10:00 AM	TO	11:00 AM	418	197		Y			Y		Y	Y	**Y**		Y			
11:00 AM	TO	12:00 PM	460	234	Y	Y	**Y**		Y		Y	Y	**Y**		Y			
12:00 PM	TO	01:00 PM	542	268	Y	Y	**Y**		Y		Y	Y	**Y**	Y	Y	**Y**	**Y**	
01:00 PM	TO	02:00 PM	559	239	Y	Y	**Y**		Y		Y	Y	**Y**	Y	Y	**Y**	**Y**	
02:00 PM	TO	03:00 PM	594	296	Y	Y	**Y**		Y		Y	Y	**Y**	Y	Y	**Y**	**Y**	
03:00 PM	TO	04:00 PM	552	259	Y	Y	**Y**		Y		Y	Y	**Y**	Y	Y	**Y**	**Y**	
04:00 PM	TO	05:00 PM	576	275	Y	Y	**Y**		Y		Y	Y	**Y**	Y	Y	**Y**	**Y**	
05:00 PM	TO	06:00 PM	514	293	Y	Y	**Y**		Y		Y	Y	**Y**	Y	Y	**Y**	**Y**	
06:00 PM	TO	07:00 PM	416	238		Y			Y		Y	Y	**Y**		Y			
07:00 PM	TO	08:00 PM	395	190		Y			Y		Y	Y	**Y**		Y			
08:00 PM	TO	09:00 PM	355	170		Y			Y		Y	Y	**Y**		Y			
09:00 PM	TO	10:00 PM	267	160		Y			Y			Y			Y			
			6,662	3,324	7	14	**7**	0	16	**0**	11	15	**11**	6	16	**6**	**6**	**0**
					8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
					NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**SATISFIED**	**NOT SATISFIED**

12/18/24
Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2000 MUTCD)

MAJOR STREET:	Amargosa Rd	EB	WB	# OF APPROACH LANES:	2
MINOR STREET:	Key Pointe Ave	NB	SB	# OF APPROACH LANES:	2
CITY, STATE:	Hesperia, CA				
COMMENTS:	Traffic volumes derived using ITE Trip Generation and daily distribution percentage information.				
	Projected 2026 Volumes + Generated Trips				

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): Y

			Amargosa Rd			Key Pointe Ave		
			EB Approach	WB Approach	Total	NB Approach	SB Approach	Minor Street Heavy Leg
06:00 AM	TO	07:00 AM	80	198	278	94		94
07:00 AM	TO	08:00 AM	82	305	387	170		170
08:00 AM	TO	09:00 AM	113	344	457	164		164
09:00 AM	TO	10:00 AM	133	411	544	262		262
10:00 AM	TO	11:00 AM	162	501	663	338		338
11:00 AM	TO	12:00 PM	143	621	764	379		379
12:00 PM	TO	01:00 PM	155	761	916	438		438
01:00 PM	TO	02:00 PM	159	762	921	394		394
02:00 PM	TO	03:00 PM	197	747	944	433		433
03:00 PM	TO	04:00 PM	203	740	943	391		391
04:00 PM	TO	05:00 PM	168	782	950	412		412
05:00 PM	TO	06:00 PM	137	762	899	433		433
06:00 PM	TO	07:00 PM	119	667	786	352		352
07:00 PM	TO	08:00 PM	118	616	734	300		300
08:00 PM	TO	09:00 PM	95	554	649	237		237
09:00 PM	TO	10:00 PM	52	400	452	178		178

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Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2000 MUTCD)

MAJOR STREET: **Amargosa Rd** EB WB # OF APPROACH LANES: **2**

MINOR STREET: **Key Pointe Ave** NB SB # OF APPROACH LANES: **2**

CITY, STATE: **Hesperia, CA**

COMMENTS: Traffic volumes derived using ITE Trip Generation and daily distribution percentage information.
Projected 2026 Volumes + Generated Trips

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **Y**

			MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
					MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES				→	**420**	**140**		**630**	**70**		**336**	**112**		**504**	**56**			
06:00 AM	TO	07:00 AM	278	94					Y						Y			
07:00 AM	TO	08:00 AM	387	170		Y			Y		Y	Y	**Y**		Y			
08:00 AM	TO	09:00 AM	457	164	Y	Y	**Y**		Y		Y	Y	**Y**		Y			
09:00 AM	TO	10:00 AM	544	262	Y	Y	**Y**		Y		Y	Y	**Y**	Y	Y	**Y**	**Y**	
10:00 AM	TO	11:00 AM	663	338	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
11:00 AM	TO	12:00 PM	764	379	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
12:00 PM	TO	01:00 PM	916	438	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
01:00 PM	TO	02:00 PM	921	394	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
02:00 PM	TO	03:00 PM	944	433	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
03:00 PM	TO	04:00 PM	943	391	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
04:00 PM	TO	05:00 PM	950	412	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
05:00 PM	TO	06:00 PM	899	433	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
06:00 PM	TO	07:00 PM	786	352	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
07:00 PM	TO	08:00 PM	734	300	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
08:00 PM	TO	09:00 PM	649	237	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	
09:00 PM	TO	10:00 PM	452	178	Y	Y	**Y**		Y		Y	Y	**Y**		Y			
			11,287	4,975	14	15	**14**	11	16	**11**	15	15	**15**	12	16	**12**	**12**	**10**
					8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
					SATISFIED			**SATISFIED**			**SATISFIED**						**SATISFIED**	**SATISFIED**

12/18/24
Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2000 MUTCD)

MAJOR STREET:	Amargosa Rd	EB	WB	# OF APPROACH LANES:	2
MINOR STREET:	West Retail Driveway/West F	NB	SB	# OF APPROACH LANES:	3
CITY, STATE:	Hesperia, CA				
COMMENTS:	Traffic volumes derived using ITE Trip Generation and daily distribution percentage information.				
	Projected 2026 Volumes + Generated Trips				

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): Y

			Amargosa Rd			ail Driveway/West Fuel Drivev		
			EB Approach	WB Approach	Total	NB Approach	SB Approach	Minor Street Heavy Leg
06:00 AM	TO	07:00 AM	155	150	305	78	12	78
07:00 AM	TO	08:00 AM	258	211	469	146	30	146
08:00 AM	TO	09:00 AM	258	231	489	161	44	161
09:00 AM	TO	10:00 AM	394	288	682	141	76	141
10:00 AM	TO	11:00 AM	490	353	843	130	127	130
11:00 AM	TO	12:00 PM	524	415	939	175	176	176
12:00 PM	TO	01:00 PM	558	518	1076	194	213	213
01:00 PM	TO	02:00 PM	544	529	1073	174	217	217
02:00 PM	TO	03:00 PM	589	517	1106	180	208	208
03:00 PM	TO	04:00 PM	579	499	1078	204	204	204
04:00 PM	TO	05:00 PM	559	530	1089	217	210	217
05:00 PM	TO	06:00 PM	549	504	1053	225	214	225
06:00 PM	TO	07:00 PM	447	424	871	225	188	225
07:00 PM	TO	08:00 PM	402	410	812	185	168	185
08:00 PM	TO	09:00 PM	313	364	677	170	153	170
09:00 PM	TO	10:00 PM	214	264	478	120	111	120

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Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2000 MUTCD)

MAJOR STREET: **Amargosa Rd** EB WB # OF APPROACH LANES: **2**

MINOR STREET: **West Retail Driveway/We** NB SB # OF APPROACH LANES: **3**

CITY, STATE: **Hesperia, CA**

COMMENTS: Traffic volumes derived using ITE Trip Generation and daily distribution percentage information.
Projected 2026 Volumes + Generated Trips

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **Y**

			MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
					MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES					**420**	**140**		**630**	**70**		**336**	**112**		**504**	**56**			
06:00 AM	TO	07:00 AM	305	78					Y						Y			
07:00 AM	TO	08:00 AM	469	146	Y	Y	**Y**		Y		Y	Y	**Y**		Y			
08:00 AM	TO	09:00 AM	489	161	Y	Y	**Y**		Y		Y	Y	**Y**		Y			
09:00 AM	TO	10:00 AM	682	141	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**		
10:00 AM	TO	11:00 AM	843	130	Y			Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	
11:00 AM	TO	12:00 PM	939	176	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
12:00 PM	TO	01:00 PM	1,076	213	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
01:00 PM	TO	02:00 PM	1,073	217	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
02:00 PM	TO	03:00 PM	1,106	208	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
03:00 PM	TO	04:00 PM	1,078	204	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
04:00 PM	TO	05:00 PM	1,089	217	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
05:00 PM	TO	06:00 PM	1,053	225	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
06:00 PM	TO	07:00 PM	871	225	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
07:00 PM	TO	08:00 PM	812	185	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	
08:00 PM	TO	09:00 PM	677	170	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	
09:00 PM	TO	10:00 PM	478	120	Y				Y		Y	Y	**Y**		Y			
			13,040	2,816	15	13	**13**	12	16	**12**	15	15	**15**	12	16	**12**	**11**	**8**
					8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
					SATISFIED			**SATISFIED**			**SATISFIED**						**SATISFIED**	**SATISFIED**

12/18/24
Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2000 MUTCD)

MAJOR STREET:	Amargosa Rd	EB	WB	# OF APPROACH LANES:	2
MINOR STREET:	East Retail Driveway/East Fu	NB	SB	# OF APPROACH LANES:	1
CITY, STATE:	Hesperia, CA				
COMMENTS:	Traffic volumes derived using ITE Trip Generation and daily distribution percentage information.				
	Projected 2026 Volumes + Generated Trips				

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): Y

			Amargosa Rd			Driveway/East Fuel Exit Drive		
			EB Approach	WB Approach	Total	NB Approach	SB Approach	Minor Street Heavy Leg
06:00 AM	TO	07:00 AM	164	150	314	2	3	3
07:00 AM	TO	08:00 AM	267	209	476	4	10	10
08:00 AM	TO	09:00 AM	255	230	485	4	14	14
09:00 AM	TO	10:00 AM	356	285	641	4	24	24
10:00 AM	TO	11:00 AM	414	345	759	3	41	41
11:00 AM	TO	12:00 PM	439	401	840	4	56	56
12:00 PM	TO	01:00 PM	460	500	960	5	68	68
01:00 PM	TO	02:00 PM	456	508	964	4	69	69
02:00 PM	TO	03:00 PM	517	496	1013	4	66	66
03:00 PM	TO	04:00 PM	511	479	990	5	65	65
04:00 PM	TO	05:00 PM	484	510	994	6	67	67
05:00 PM	TO	06:00 PM	471	484	955	6	68	68
06:00 PM	TO	07:00 PM	389	406	795	6	60	60
07:00 PM	TO	08:00 PM	348	394	742	5	53	53
08:00 PM	TO	09:00 PM	289	345	634	4	49	49
09:00 PM	TO	10:00 PM	216	247	463	3	35	35

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Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2000 MUTCD)

MAJOR STREET: **Amargosa Rd** EB WB # OF APPROACH LANES: **2**

MINOR STREET: **East Retail Driveway/Eas** NB SB # OF APPROACH LANES: **1**

CITY, STATE: **Hesperia, CA**

COMMENTS: Traffic volumes derived using ITE Trip Generation and daily distribution percentage information.
Projected 2026 Volumes + Generated Trips

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **Y**

			MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
					MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES				→	**420**	**105**		**630**	**53**		**336**	**84**		**504**	**42**			
06:00 AM	TO	07:00 AM	314	3														
07:00 AM	TO	08:00 AM	476	10	Y						Y							
08:00 AM	TO	09:00 AM	485	14	Y						Y							
09:00 AM	TO	10:00 AM	641	24	Y			Y			Y			Y				
10:00 AM	TO	11:00 AM	759	41	Y			Y			Y			Y				
11:00 AM	TO	12:00 PM	840	56	Y			Y	Y	**Y**	Y			Y	Y	**Y**		
12:00 PM	TO	01:00 PM	960	68	Y			Y	Y	**Y**	Y			Y	Y	**Y**	**Y**	
01:00 PM	TO	02:00 PM	964	69	Y			Y	Y	**Y**	Y			Y	Y	**Y**	**Y**	
02:00 PM	TO	03:00 PM	1,013	66	Y			Y	Y	**Y**	Y			Y	Y	**Y**	**Y**	
03:00 PM	TO	04:00 PM	990	65	Y			Y	Y	**Y**	Y			Y	Y	**Y**	**Y**	
04:00 PM	TO	05:00 PM	994	67	Y			Y	Y	**Y**	Y			Y	Y	**Y**	**Y**	
05:00 PM	TO	06:00 PM	955	68	Y			Y	Y	**Y**	Y			Y	Y	**Y**	**Y**	
06:00 PM	TO	07:00 PM	795	60	Y			Y	Y	**Y**	Y			Y	Y	**Y**		
07:00 PM	TO	08:00 PM	742	53	Y			Y	Y	**Y**	Y			Y	Y	**Y**		
08:00 PM	TO	09:00 PM	634	49	Y			Y			Y			Y	Y	**Y**		
09:00 PM	TO	10:00 PM	463	35	Y						Y							
			12,025	748	15	0	**0**	12	9	**9**	15	0	**0**	12	10	**10**	**6**	**0**
					8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
					NOT SATISFIED			**SATISFIED**			**NOT SATISFIED**						**SATISFIED**	**NOT SATISFIED**

12/18/24
Kimley-Horn and Associates

APPENDIX I

VMT ANALYSIS

VMT Analysis

for the:

Big Box Retail, Car Wash, and Fuel Station Project

In the City of Hesperia

April 2025

Kimley»Horn

SB 743 VEHICLE MILES TRAVELED ANALYSIS
FOR THE PROPOSED
BIG BOX RETAIL, CAR WASH, AND FUEL STATION PROJECT
IN THE CITY OF HESPERIA

Introduction

Senate Bill 743 (SB 743) was approved by California legislature in September 2013. SB 743 requires changes to California Environmental Quality Act (CEQA), specifically directing the Governor's Office of Planning and Research (OPR) to develop alternative metrics to the use of vehicular "Level of Service" (LOS) for evaluating transportation projects. OPR has prepared a technical advisory ("OPR" Technical Advisory) for evaluating transportation impacts in CEQA and has recommended that Vehicle Miles Traveled (VMT) replace LOS as the primary measure of transportation impacts. This analysis was prepared to document the VMT analysis for the proposed Big Box Retail, Car Wash, and Fuel Station project (Proposed Project) in the City of Hesperia following the OPR Technical Advisory (December 2018) and the City of Hesperia *Traffic Impact Analysis (TIA) Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment* (July 2020).

Project Overview

The project site is located just east of the intersection of Key Pointe Drive at Amargosa Road in the City of Hesperia. The site is currently vacant land. The applicant proposes to develop an approximately 167,664 square-foot (SF) big box retail store north of Amargosa Road, and a fuel station with 28 fueling positions and a single-tunnel automated car wash south of Amargosa Road. A copy of the project site plan is provided on **Figure 1**. The project site is shown in its regional setting on **Figure 2**. It should be noted that the project driveway locations and intersection control shown are not final and may be adjusted as a result of the Traffic Impact Analysis (TIA).

NOT TO SCALE

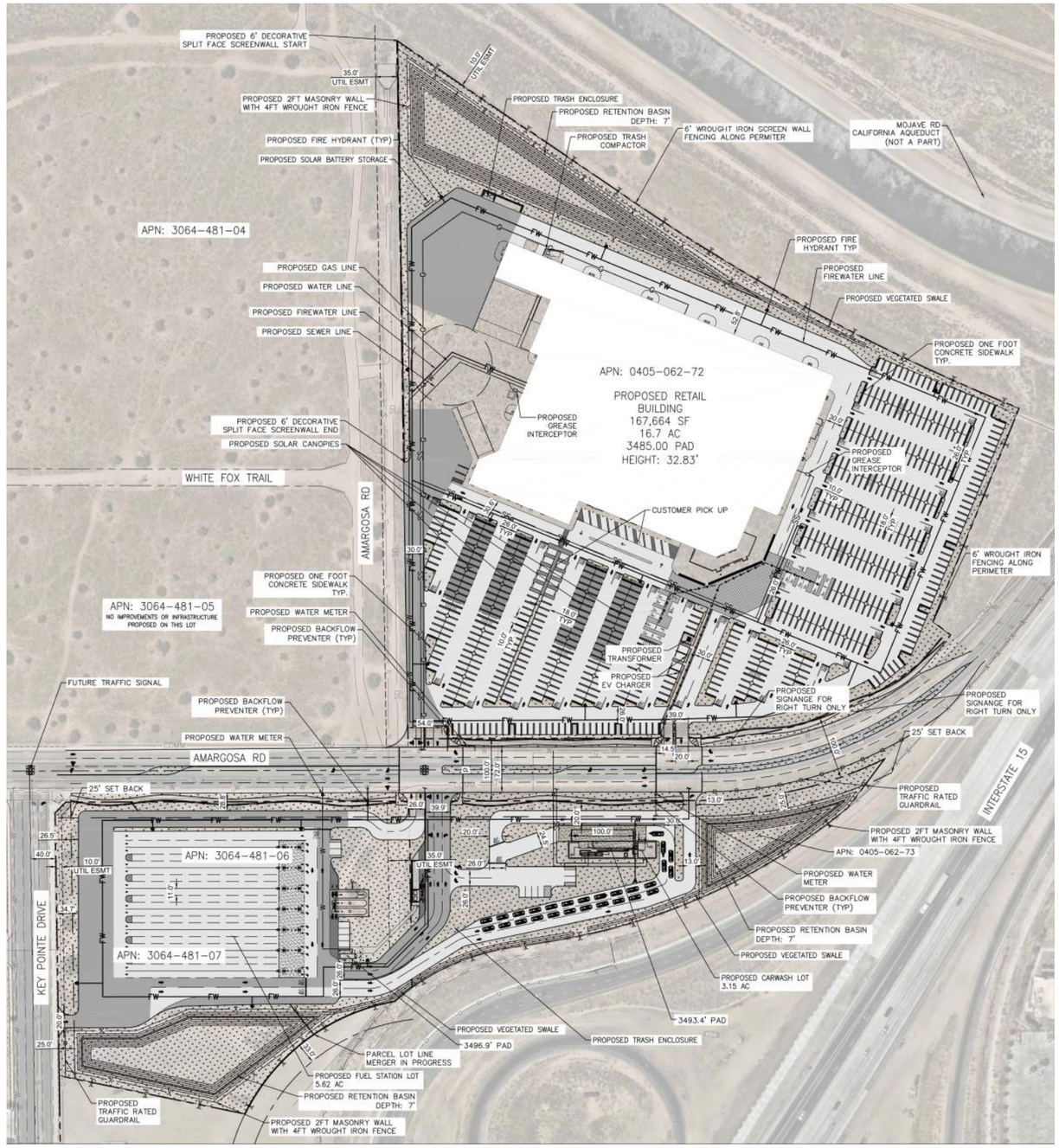
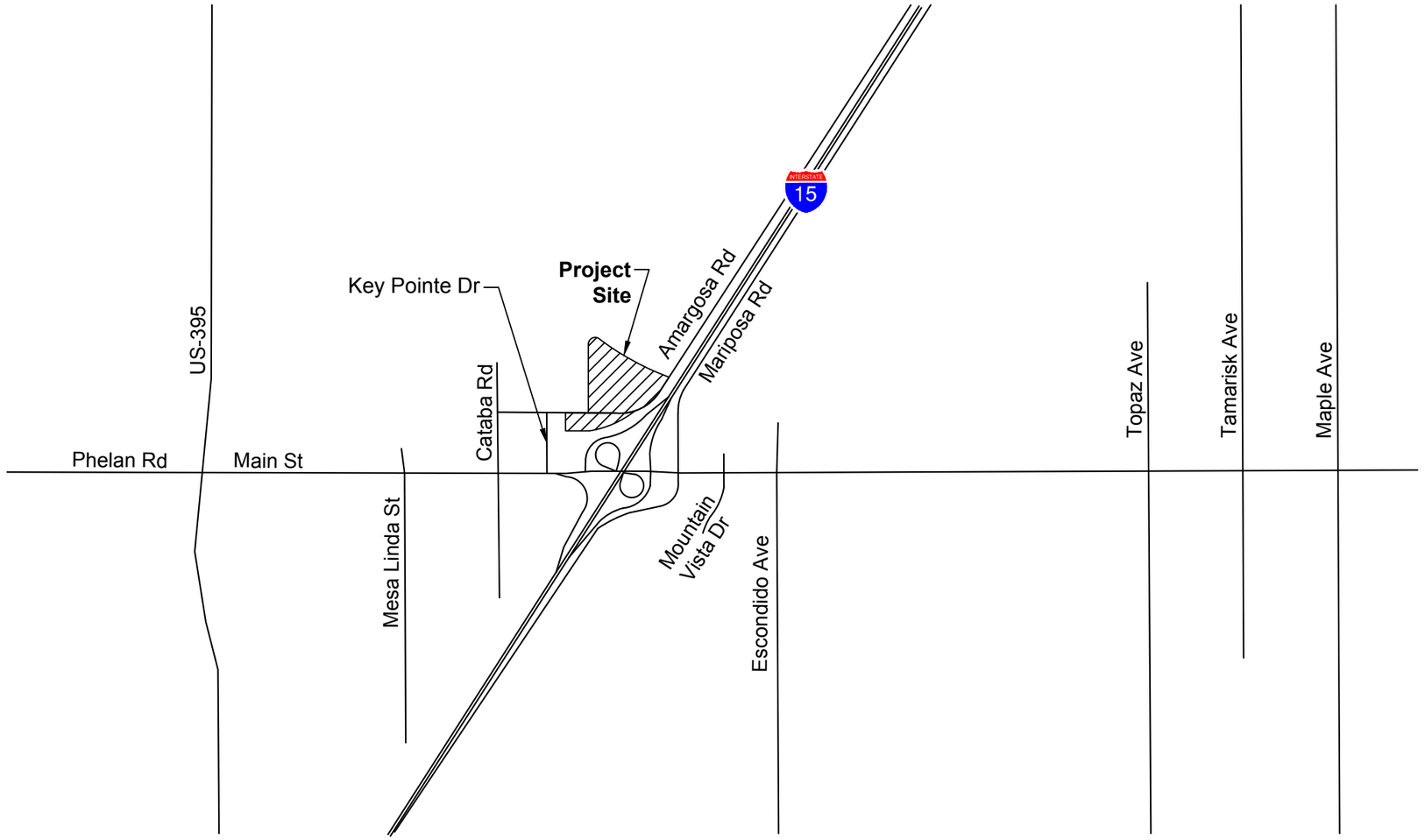


FIGURE 1
SITE PLAN

NOT TO SCALE



LEGEND:

= Project Site

FIGURE 2
VICINITY MAP

Kimley»Horn

Vehicle Miles Traveled Screening

This section documents Vehicle Miles Traveled (VMT)/SB 743 considerations for the project. The City of Hesperia guidelines provide details on appropriate screening thresholds that can be used to identify when a proposed land use project is anticipated to result in a less-than-significant impact without conducting a more detailed level analysis. Screening thresholds are broken into the following three steps:

1. Transit Priority Area (TPA) Screening
2. Low VMT Area Screening
3. Low Project Type Screening

A land use project needs only meet one of the above screening thresholds to be presumed to result in not a significant impact under CEQA pursuant to SB 743.

Transit Priority Area (TPA) Screening

Projects located within half mile from an existing major transit stop or within half of a mile from an existing stop along a high-quality transit corridor can be screened out. Based on San Bernardino County Transportation Authority (SBCTA) VMT Screening Tool, the project is not located in a Transit Priority Area (TPA).

The TPA Screening threshold is not met.

Low VMT Area Screening

A project located within a low VMT generating area as determined by the SBCTA VMT Screening Tool would be considered to have a less-than-significant transportation impact. Based on the SBCTA VMT Screening Tool, the proposed project is not located within a low VMT area.

The Low VMT Area Screening threshold is not met.

Land Use Type Screening

Based on the City of Hesperia Guidelines, local-serving retails less than 50,000 SF may be presumed to have a less-than-significant transportation impact. Project types falling under the screening criteria include the following:

- Local serving K-12 Schools
- Local serving retail less than 50,000 square feet
- Local parks
- Day care centers
- Local serving gas stations

- Local serving banks
- Local serving hotels (e.g. non-destination hotels)
- Student housing Projects on or adjacent college campuses
- Local serving assembly uses (community organizations, places of worship)
- Community institutions (Public libraries, fire stations, local government)
- Local serving community colleges (consistent with RTP/SCS)
- Affordable or supportive housing, Assisted living facilities, Senior housing

Based on the Project types above, the Project land uses have not been identified as having the presumption of a less than significant impact.

The Project Type Screening threshold is not met.

Based on the screening analysis, the Project cannot be presumed to have a less-than-significant transportation impact; and therefore, a full VMT analysis was conducted to further analyze the Proposed Project's VMT impacts.

VMT THRESHOLDS

Per the City VMT guidelines, VMT impacts are evaluated based on "project-generated VMT" and the "project effect on VMT." The "project-generated VMT" is compared to the baseline Countywide VMT efficient metric, whereas the "project-effect" effect on VMT is compared between the with and without project conditions. The following VMT threshold are applied to the Project per the City guidelines:

1. A project would result in a significant project-generated VMT impact if the project-generated VMT per service population[1] exceeds the baseline County of San Bernardino VMT per service population for either baseline or cumulative plus project scenario.

2. A project's effect on VMT would be considered significant if the baseline link-level boundary VMT per service population (San Bernardino County Boundary) increases under plus project conditions compared to no project conditions for both baseline and cumulative scenarios.

The Cumulative "No Project" scenario shall reflect the adopted RTP/SCS; as such, if a project is consistent with the regional RTP/SCS, then the cumulative impacts shall be considered less than significant subject to consideration of other substantial evidence.

Since the release of the City's guidelines, an updated version of the County's travel demand model was released. The most current version of the County travel demand model was used for this analysis; therefore, an updated threshold was developed which remains consistent with the City's VMT guideline methodologies.

[1] Service population is the sum of population and employment.

ANALYSIS SCENARIOS

The VMT analysis was completed using the current version of San Bernardino County's Travel Demand Model, SBTAM version 3.2 (referred to as the "SBTAM Model"). The model is trip-based and considers the interactions between different land uses based on socio-economic data (SED) such as population, households, and employment. Adjustments in SED (population and employment) were made to the appropriate Traffic Analysis Zones (TAZ) in the SBTAM Model to reflect the project's proposed land uses.

The current version of the SBTAM Model maintains a base year condition of 2019, which was interpolated to 2024 to be representative of existing conditions. The horizon year for the SBTAM Model is 2050.

The project's VMT analysis was conducted for existing and cumulative scenarios and results were compared to existing conditions. The analysis includes the following scenarios:

- **Existing Conditions** – Based on 2019 SBTAM Model conditions and interpolated to 2024 conditions.
- **Existing Plus Project Conditions** – Based on 2019 SBTAM Model with the project land use and interpolated to 2024 conditions.
- **Cumulative No Project Conditions** – Based on the 2050 SBTAM Model conditions without the project land use.
- **Cumulative Plus Project Conditions** – Based on the updated 2050 SBTAM Model conditions with the project land use.

PROJECT LAND USE CONVERSION

To evaluate the project's VMT, the land use plan needed to be first converted into a SBTAM compatible dataset. This dataset relied on land use assumptions developed as part of the Proposed Project, and the trip generation estimates for the project. To represent the project, adjustments to employment data were made to the SBTAM TAZ 53908201. **Table 1** shows the employment information for the project that was added to the SBTAM Model.

Table 1 – Project SED Model Inputs

Input	Value
Retail Employment	270

The resultant land use data was coded into the SBTAM Model for analysis. For the cumulative plus project scenario, the Project's estimated employment was reallocated from other TAZs as to not change the control totals for future employment growth.

VMT ANALYSIS

As required in the City's TIA Guidelines, VMT impacts are evaluated based on "project-generated VMT" and the "project effect on VMT." Project-generated VMT is the assessment based on trips and trip distances of project-specific trip origins and destinations. The effect on VMT is an estimate of how VMT within the County will change once a project is built and new and existing traffic redistributes. In addition, the project VMT impacts are evaluated using net change VMT metric consistent with OPR Guidelines.

Origin-Destination (OD) VMT

As described in the City's TIA Guidelines, the VMT significance threshold is based on a transportation efficiency metric. The efficiency metric used in this analysis is OD VMT per service population. The calculation of the VMT efficiency metric using the OD method has two components – the total number of weekday trips generated for each origin-destination pair and the trip length (skims) of each vehicle between each origin-destination pair TAZ. OD VMT per service population is determined by dividing the total VMT by total population and employment derived from the model. Using the OD method, VMT was calculated for the project TAZ, under both Existing and Cumulative conditions.

Boundary VMT

Consistent with the City's VMT guidelines, the project's effect on VMT was evaluated using the boundary method. The boundary method is the total daily VMT within a specific area calculated by multiplying the daily vehicle traffic volume on all the roadway segments by the length of each of the roadway segments within that specific study area. This approach includes all trips, including those trips that do not begin or end in the designated boundary. This method also captures the effect of cut-through and/or displaced traffic within the specific study area.

The VMT impact is determined by normalizing the boundary VMT by the service population and comparing the results between the with and the without project conditions. The project effect on VMT using the boundary method was evaluated for the "10 mile" radius (average trip distance in the project TAZ) and countywide boundary.

VMT RESULTS

The following summarizes the results of the VMT analysis. **Table 2** shows the project TAZ OD VMT per service population compared to the County average. As shown in **Table 2**, the project TAZ VMT per service population (64.93) is higher than the San Bernardino County average (37.99). Similarly, **Table 3** shows a Cumulative Year (2050) project TAZ OD VMT per service population (74.76) which is higher than the threshold.

Table 2 – Existing Year (2024) Origin-Destination VMT

VMT Metric	Project TAZ
OD VMT	88,225
Service Population	1,359
OD VMT/Service Population	64.93
Exceeds County Average Threshold of 37.99?	**Yes**

Note: 2024 VMT results were determined by interpolating model Base Year 2019 and Future Year 2050 results.

Table 3 – Cumulative Year (2050) Origin-Destination VMT

VMT Metric	Project TAZ
OD VMT	172,375
Service Population	2,306
OD VMT/Service Population	74.76
Exceeds County Average Threshold of 37.99?	**Yes**

Table 4 and **Table 5** show the results of the boundary method. As shown in **Table 4**, there is an increase in the County and "10 Mile" Boundary VMT between with and without project conditions under existing year. However, there is no increase in either County or "10 Mile" Boundary VMT per service population when comparing the link-level VMT per service population between the No Project and the Plus Project. Similarly, **Table 5** shows this same relationship under the cumulative year conditions under the "10 Mile" boundary only. The cumulative "10 Mile" Plus Project VMT per service population is 0.04% lower than the No Project VMT per service population. Under the countywide boundary, the cumulative Plus Project VMT per service population (24.87) results in a negligible increase compared to the No Project (24.86). It should be noted that the Plus Project VMT estimates are within 0.02% of the No Project Conditions; therefore, this increase may be attributed to the variability among model runs or model noise.

Table 4 – Existing Year (2024) Boundary VMT

VMT Metric	No Project	Plus Project
10 Mile Boundary VMT	8,686,034	8,696,245
10 Mile Service Population	132,756	133,022
10 Mile Boundary VMT/Service Population	65.43	65.37
County Boundary VMT	70,918,065	70,933,584
County Service Population	3,191.564	3,191.790
County Boundary VMT/Service Population	22.22	22.22

Note: 2024 VMT results were determined by interpolating model Base Year 2019 and Future Year 2050 results.

Table 5 – Cumulative Year (2050) Boundary VMT

VMT Metric	No Project	Plus Project
10 Mile Boundary VMT	12,523,123	12,536,290
10 Mile Service Population	181,928	182,177
10 Mile Boundary VMT/Service Population	68.84	68.81
County Boundary VMT	93,511,519	93,548,736
County Service Population	3,761,191	3,761,191
County Boundary VMT/Service Population	24.86	24.87

VMT IMPACT DETERMINATION

Based on the VMT analysis, potential project VMT impacts were determined using the City's VMT Guidelines and the following findings are made:

- The project generated VMT per service population does exceed the County threshold under the Existing Year and Cumulative Year conditions. Therefore, **the project-generated VMT impact is considered to be a significant impact**.
- The "10 Mile" Boundary VMT per service population decreases under Plus Project conditions for the Existing Year and Cumulative Year. The County Boundary VMT per service population remains the same between No Project and Plus Project for the Existing Year but has a negligible increase under Plus Project conditions for the Cumulative Year. Therefore, **the Project's effect on VMT impact is considered to be less-than-significant**.

POTENTIAL VMT MITIGATION MEASURES

When a significant VMT transportation impact is identified, feasible mitigation measures, if any, must be implemented pursuant to CEQA to avoid or reduce the significant impact. Therefore, potential mitigation measures are discussed below.

One way to potentially mitigate a project's significant VMT impact is by implementing feasible Transportation Demand Management (TDM) strategies. In this regard, the California Air Pollution Control Officers Association (CAPCOA) published the *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* in December 2021 (CAPCOA Guidelines), which provides methods for estimating the mitigation effects of various TDM strategies. This document is commonly used throughout the State to identify and document potentially feasible TDM strategies.

Based on a review of these TDM strategies, the following potential mitigation measure was evaluated for applicability to this Project and its potential to reduce project-generated VMT.

Provide Pedestrian Network Improvement (CAPCOA Handbook Strategy T-18): This mitigation measure requires the construction of off-site sidewalks to improve sidewalk coverage and pedestrian access to the surrounding area. The construction of such pedestrian facilities would provide residents with the opportunity to walk to their destination rather than drive, reducing the number of vehicle trips and overall Project-generated VMT. The Project is assumed to add new sidewalks along Amargosa Road. From the CAPCOA Guidelines, the recommended study area of 0.6 miles from the project perimeter was used to determine the length of existing sidewalk, which is approximately 0.5 miles. The Project will increase the existing study area sidewalk length from approximately 0.5 miles to 0.7 miles which could potentially reduce VMT by 2% according to the formula provided in the County Guidelines.

FINDINGS AND CONCLUSIONS

The Project's VMT would exceed the City's significance threshold and the Project would therefore have a significant VMT transportation impact. It has been determined that one feasible mitigation measure to reduce that significant impact is the improvements of the pedestrian network in accordance with CAPCOA Handbook Strategy T-18, which could reduce the Project's VMT impact by approximately 2%. However, with the implementation of these mitigation measure the Project' VMT impact remains over the threshold, so the Project's VMT impact would be significant and unavoidable.